PIONEER®
The Art of Entertainment

Service Manual

ORDER NO.
ARP2215

STEREO AMPLIFIER

A-449
A-449-S
A-339
A-339-S

A-449, A-449-S, A-339 AND A-339-S HAVE THE FOLLOWING :

Type	Model				Power Requirement	Remarks
	A-449	A-449-S	A-339	A-339-S		
KU	–	–	○	–	AC120V only	
HE	○	–	○	–	AC220-230V, 240V(switchable)*	
HEWZ	○	○	○	○	AC220-230V, 240V(switchable)*	
SD	○	–	○	–	AC110V,120V-127V, 220V, 240V(switchable)	
KC	○	–	–	–	AC120V only	

* Change the primary wiring.

- **Refer to the service manual ARP2043, A-447/HE and A-337/HE.**
- **This manual is applicable to the A-449/HE, HEWZ, SD, KC, A-449-S/HEWZ, A-339/KU, HE, HEWZ, SD, and A-339-S/HEWZ types.**
- **The A-449-S is the same as the A-449 except for color.**
- **The A-339-S is the same as the A-339 except for color.**

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1. FOR A-449/HE, HEWZ, SD, KC AND A-449-S/HEWZ TYPES

1.1 CONTRAST OF MISCELLANEOUS PARTS

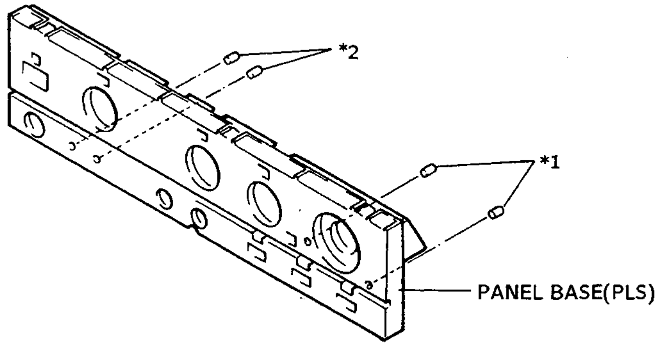
NOTES:

- *Parts without part number cannot be supplied.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

The A-449/HE, HEWZ, SD, KC and A-449-S/HEWZ types are the same as the A-447/HE type with the exception of the following sections.

Mark	Symbol & Description	Part No.						Remarks
		A-447/HE	A-449/HE	A-449/SD	A-449/KC	A-449/HEWZ	A-449-S/HEWZ	
◉	AF COMPLEX assembly	AWZ2861	AWZ3628	AWZ3628	AWZ3628	AWZ3627	AWZ3627	
	HEAD PHONE assembly	Non supply	Non supply	Non supply	Non supply	Non supply	Non supply	
	POWER SW assembly	Non supply	Non supply	Non supply	Non supply	Non supply	Non supply	
⚠	AC power cord	ADG1049	ADG1049	ADG1051	ADG1058	ADG1049	ADG1049	
⚠	Fuse (FU1 T2.5A)	AEK-403	AEK-512	....	....	AEK-512	AEK-512	
⚠	Fuse (FU1 T5A)	....	....	....	AEK-308	....	....	
⚠	Fuse (FU1, FU2 2.5A)	....	....	AEK-123	....	....	....	
⚠	Power transformer(T1)	ATS1277	ATS1346	ATS1289	ATS1288	ATS1346	ATS1346	
	Resistors(R1, R2)	....	....	....	....	RD1/4PM100J	RD1/4PM100J	
	Resistor (R3)	....	RD1/4PM010J	RD1/4PM010J	RD1/4PM010J	RD1/4PM010J	RD1/4PM010J	
⚠	AC socket(OUTLET 3P)	....	....	AKP-515	AKP-515	....	....	
⚠	Voltage selector (S3)	....	....	AKX-507	....	....	....	
	Strain relief	AEC-882	AEC-882	AEC-882	AEP-113	AEC-882	AEC-882	
	Screw	BBT30P060FZK	BBT30P060FZK	BBT30P060FZK	BBT30P060FZK	BBT30P060FZK	ABA-274	
	Rotary knob S (PLS)	AAB1155	AAB1155	AAB1155	AAB1155	AAB1155	AAB1238	
	Rotary knob L (PLS)	AAB1160	AAB1160	AAB1160	AAB1160	AAB1160	AAB1161	
	Rotary knob R (PLS)	AAB1162	AAB1162	AAB1162	AAB1162	AAB1162	AAB1163	
	Rotary knob M (PLS)	AAB1164	AAB1164	AAB1164	AAB1164	AAB1164	AAB1167	
	Push knob C	AAD1366	AAD1366	AAD1366	AAD1366	AAD1366	AAD1367	*1
	Push knob C	AAD1803	AAD1366	AAD1366	AAD1366	AAD1366	AAD1367	*2
	Push knob	AAD1536	AAD1536	AAD1536	AAD1536	AAD1536	AAD1538	
	Knob (POWER)	AAD1535	AAD1984	AAD1984	AAD1984	AAD1984	AAD2040	
	Packing case	AHD1861	AHD2073	AHD2073	AHD2097	AHD2073	AHD2074	
	Insulator assembly	AMR2140	AMR2140	AMR2140	AMR2141	AMR2140	AMR2140	
	Front panel	ANB1395	ANB1458	ANB1458	ANB1458	ANB1458	ANB1459	
	Bonnet case	AZN1799	AZN1799	AZN1799	AZN1799	AZN1799	AZN1800	
	Panel base (PLS)	AMB1651	AMB1651	AMB1651	AMB1651	AMB1651	AMB1652	
	Operating instructions (English, French, German, Italian, Swedish, Dutch, Spanish, Portuguese)	ARE1162	ARE1196	....	....	....	....	
	Operating instructions (German)	....	....	ARC1271	....	ARC1270	ARC1270	
	Operating instructions (English, French)	....	....	ARE1197	ARE1197	....	....	

*1, *2 : Push knob C are assembled as shown below.



1.2 P.C.B's PARTS LIST

NOTES :

- *Parts without part number cannot be supplied.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 *When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).*

560Ω 56×10^1 *561* ·· *RD1/4PS*$\boxed{5}\boxed{6}\boxed{1}$*J*
47kΩ 47×10^3 *473* ·· *RD1/4PS*$\boxed{4}\boxed{7}\boxed{3}$*J*
0.5Ω *0R5* ·· *RD2H*$\boxed{0}\boxed{R}\boxed{5}$*K*
1Ω *010* ·· *RD1P*$\boxed{0}\boxed{1}\boxed{0}$*K*

Ex.2 *When there are 3 effective digits (such as in high precision metal film resistors).*

5.62kΩ 562×10^1 *5621* ·· *RD1/4SR*$\boxed{5}\boxed{6}\boxed{2}\boxed{1}$*F*

1.2.1 For A-449/HE, SD and KC types

HEADPHONE ASSEMBLY

SWITCHES

Mark	Symbol & Description	Part No.
	S801 PUSH SWITCH	SUL5L2B2S

RESISTORS

Mark	Symbol & Description	Part No.
⚠	R801,R802 METAL OXIDE RESISTOR	RS1PMF331J
⚠	R803 METAL OXIDE RESISTOR	RS1LMF681J

OTHERS

Mark	Symbol & Description	Part No.
	JACK	AKN1002

POWER SW ASSEMBLY

SWITCHES

Mark	Symbol & Description	Part No.
⚠	S501 PUSH SWITCH	ASG1035

CAPACITORS

Mark	Symbol & Description	Part No.
⚠	C510,C511 CKA (0.01/AC400V)	ACG1002

◉AF COMPLEX ASSEMBLY (AWZ3628)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
	IC101 IC	UPC4570C
	Q101-Q104 N-FET	2SK369
	Q105,Q016 TRANSISTOR	2SC2458
	Q203-Q208 TRANSISTOR	2SA1048
	Q211,Q212 TRANSISTOR	2SC1845
	Q215-Q218 TRANSISTOR	2SA1048
	Q219,Q220 TRANSISTOR	2SC2705
	Q221,Q222 TRANSISTOR	2SC3298
	Q223,Q224 TRANSISTOR	2SA1306
	Q225,Q226 TRANSISTOR	2SC2603
	Q227,Q228 TRANSISTOR	2SC1845
	Q229,Q230 TRANSISTOR	2SA992
	Q231,Q232 TRANSISTOR	2SA1145
	Q233,Q234 TRANSISTOR	2SA992
	Q237 TRANSISTOR	2SC1845
	Q238 TRANSISTOR	2SA992
	Q291-Q294 TRANSISTOR	2SA992

Mark	Symbol & Description	Part No.
	Q301,Q302 TRANSISTOR	2SC1845
	Q303,Q304 TRANSISTOR	2SC2458
	Q305 TRANSISTOR	2SA1048
	Q306 TRANSISTOR	2SC1815
	Q307 TRANSISTOR	2SC2458
	D101,D102 ZENER DIODE	RD7.5ESB2
	D103 DIODE	1SS252
	D201,D202 ZENER DIODE	RD2.7ESB1
	D209-D216 DIODE	1SS252
	D217-D220 ZENER DIODE	RD15ESB
	D301-D306 DIODE	1SS252
	D307 ZENER DIODE	RD22ESB
	D503,D504 ZENER DIODE	RD18ESB1
	D505,D506 DIODE	11E2
	D507 DIODE	D5SB20F

SWITCHES

Mark	Symbol & Description	Part No.
	S101 PUSH SWITCH	ASG1012
	S701 SWITCH	ASU1016
	S702 SWITCH	ASU1002
	S703 PUSH SWITCH	SULL6S

COIL

Mark	Symbol & Description	Part No.
	L401,L402 COIL	ATH1009

CAPACITORS

Mark	Symbol & Description	Part No.
	C101,C102 AUDIO FILM CAPACITOR	CFTXA103J50
	C103,C104 CERAMIC CAPACITOR	CCCSL221J50
	C105,C106 CERAMIC CAPACITOR	CKCYB472K50
	C107,C108 ELECTROLYTIC CAPACIT	CEXA101M25
	C109,C110 AUDIO FILM CAPACITOR	CFTXA683J50
	C111,C112 AUDIO FILM CAPACITOR	CFTXA183J50
	C113,C114 ELECTR.CAPACITOR	CEANP220M10
	C117,C118 ELECTROLYTIC CAPACIT	CEXA221M25
	C119,C120 CERAMIC CAPACITOR	CKCYF103Z50
	C121,C122 MYLOR FILM CAPACITOR	CQMA122J50

Mark	Symbol & Description	Part No.
	C135,C136 ELECTR.CAPACITOR	CEAS470M10
	C143,C144 MYLOR FILM CAPACITOR	CQMA472K50
	C201,C202 ELECTROLYTIC CAPACIT	CEEA2R2M50
	C203,C204 CERAMIC CAPACITOR	CCCSL101K500
	C205,C206 CERAMIC CAPACITOR	CCCSL101J50
	C207,C208 CERAMIC CAPACITOR	CCCSL470J50
	C209,C210 CERAMIC CAPACITOR	CCCSL181J50
	C211,C212 ELECTROLYTIC CAPACIT	CEEA221M16
	C213,C214 CERAMIC CAPACITOR	CCCSL120K500
	C215,C216 CERAMIC CAPACITOR	CCCSL120K500
	C217,C218 ELECTR.CAPACITOR	CEAS101M10
	C219,C220 ELECTR.CAPACITOR	CEAS3R3M100
	C221,C222 ELECTR.CAPACITOR	CEAS3R3M100
	C225,C226 ELECTR.CAPACITOR	CEAS331M10
	C227-C230 CERAMIC CAPACITOR	CCCSL330K500
	C231,C232 CERAMIC CAPACITOR	CKCYB122K50
	C233-C236 ELECTR.CAPACITOR	CEAS100M50
	C237,C238 ELECTR.CAPACITOR	CEAS101M50
	C247,C248 AUDIO FILM CAPACITOR	CFTXA103J50
	C251,C252 CERAMIC CAPACITOR	CCCSL330K500
	C253,C254 CERAMIC CAPACITOR	CCCSL330K500
	C255 CERAMIC CAPACITOR	CCCSL680J50
	C256 CERAMIC CAPACITOR	CCDSL470J50
	C301,C302 ELECTR.CAPACITOR	CEANP2R2M50
	C303 ELECTROLYTIC CAPACIT	CEAS471M6
	C304 CERAMIC CAPACITOR	CKCYF103Z50
	C305 ELECTR.CAPACITOR	CEAS101M25
	C306-C308 ELECTR.CAPACITOR	CEASR47M50
	C401-C404 AUDIO FILM CAPACITOR	CFTXA104J50
	C501,C502 ELECTR.CAPACITOR	CEAS100M50
	C503,C504 ELECTR.CAPACITOR	CEAS470M25
	C505 ELECTROLYTIC CAPACIT	ACH1196
	C506 ELECTROLYTIC CAPACIT	ACH1078
	C508 ELECTR.CAPACITOR	CEAS470M50
	C509 ELECTR.CAPACITOR	CEAS220M50
	C719,C720 CERAMIC CAPACITOR	CKCYB331K50
	C725,C731 CERAMIC CAPACITOR	CKCYF103Z50
	C733,C734 CERAMIC CAPACITOR	CKDYF102Z50

RESISTORS

Mark	Symbol & Description	Part No.
	R101,R102 CARBON FILM RESISTOR	RDR1/6PU101J
	R105-R108 CARBON FILM RESISTOR	RDR1/6PU□□□J
	R119-R122 CARBON FILM RESISTOR	RDR1/4PM□□□J
	R133,R134 CARBON FILM RESISTOR	RDR1/6PU391J
	R143,R144 CARBON FILM RESISTOR	RD1/4PM560J
	R201-R204 CARBON FILM RESISTOR	RDR1/4PM□□□J
	R205-R214 CARBON FILM RESISTER	RD1/4PM□□□J
	R215-R218 CARBON FILM RESISTOR	RDR1/4PM□□□J
	R219-R234 CARBON FILM RESISTOR	RD1/4PM□□□J
	R237,R238 CARBON FILM RESISTOR	RDR1/4PM224J

Mark	Symbol & Description	Part No.
⚠	R239-R242 FUSIBLE RESISTOR	RFA1/4PS101J
⚠	R243,R244 CARBON FILM RESISTOR	RD1/4PMF561J
⚠	R245-R248 FUSIBLE RESISTOR	RFA1/4PS101J
	R249-R252 CARBON FILM RESISTOR	RD1/4PM□□□J
	R255,R256 CARBON FILM RESISTOR	RD1/4PM561J
⚠	R257-R260 FUSIBLE RESISTOR	RFA1/4PS101J
⚠	R261-R264 FUSIBLE RESISTOR	RFA1/4PS470J
⚠	R265-R268 FUSIBLE RESISTOR	RFA1/4PS4R7J
⚠	R269,R270 RESISTOR (0.33, 5W)	ACN1063
	R275-R278 CARBON FILM RESISTOR	RD1/4PM□□□J
⚠	R281-R284 FUSIBLE RESISTOR	RFA1/4PS331J
⚠	R285,R286 FUSIBLE RESISTOR	RFA1/4PS101J
⚠	R287,R288 CARBON FILM RESISTOR	RD1/4PMF4R7J
⚠	R289,R290 FUSIBLE RESISTOR	RFA1/4PS101J
	R299 CARBON FILM RESISTOR	RD1/4PM100J
⚠	R301,R302 CARBON FILM RESISTOR	RD1/4PMF222J
⚠	R308 CARBON FILM RESISTOR	RD1/4PMF101J
	R311-R315 CARBON FILM RESISTOR	RD1/4PM□□□J
	R317-R327 CARBON FILM RESISTOR	RD1/4PM□□□J
⚠	R330 CARBON FILM RESISTOR	RD1/4PMF010J
⚠	R401,R402 CARBON FILM RESISTOR	RD1/4PMFL100J
⚠	R403,R404 METAL OXIDE RESISTOR	RS1LMF331J
⚠	R407,R408 CARBON FILM RESISTOR	RD1/4PMFL100J
⚠	R501,R502 METAL OXIDE RESISTOR	RS1PMF121J
⚠	R503,R504 METAL OXIDE RESISTOR	RS1LMF121J
⚠	R505,R506 METAL OXIDE RESISTOR	RS1PMF121J
⚠	R507,R508 CARBON FILM RESISTOR	RD1/4PMF010J
⚠	R509,R510 METAL OXIDE RESISTOR	RS1LMF272J
	R513-R515 CARBON FILM RESISTOR	RD1/4PM272J
	R516 CARBON FILM RESISTOR	RD1/4PMFL272J
⚠	R517-R520 METAL OXIDE RESISTOR	RS1PMF101J
	R731,R732 CARBON FILM RESISTOR	RD1/4PM103J
	VR201,VR202 VR	ACP1045
	VR701 VARIABLE(100K-20AX2)	ACT1062
	Other resistors	RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	PIN JACK(4P)	AKB1007
	PIN JACK(6P)	AKB1008
	PIN JACK(6P)	AKB1024
	SPEAKER TERMINAL 8-P	AKE1011
	CN4 CONNECTOR(15P)	KPE15
	CN9 JUMPER CONNECTOR	KPC8
	RY301,RY302 RELAY	ASR1037
	RY303 RELAY	ASR1038

1.2.2 For A-449/HEWZ and A-449-S/HEWZ types

POWER SW ASSEMBLY

SWITCHES

Mark	Symbol & Description	Part No.
⚠	S501 PUSH SWITCH	ASG1035

CAPACITORS

Mark	Symbol & Description	Part No.
⚠	C510,C511 CKA (0.01/AC400V)	ACG1002

HEADPHONE ASSEMBLY

SWITCHES

Mark	Symbol & Description	Part No.
	S801 PUSH SWITCH	SUL5L2B2S

CAPACITORS

Mark	Symbol & Description	Part No.
	C801,C802 CERAMIC CAPACITOR	CKCYB392K50

RESISTORS

Mark	Symbol & Description	Part No.
⚠	R801,R802 METAL OXIDE RESISTOR	RS1PMF331J
⚠	R803 METAL OXIDE RESISTOR	RS1LMF681J

OTHERS

Mark	Symbol & Description	Part No.
	JACK	AKN1002

●AF COMPLEX ASSEMBLY (AWZ3627)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
	IC101 IC	UPC4570C
	Q101-Q104 N-FET	2SK369
	Q105,Q106 TRANSISTOR	2SC2458
	Q203-Q208 TRANSISTOR	2SA1048
	Q211,Q212 TRANSISTOR	2SC1845
	Q215-Q218 TRANSISTOR	2SA1048
	Q219,Q220 TRANSISTOR	2SC2705
	Q221,Q222 TRANSISTOR	2SC3298
	Q223,Q224 TRANSISTOR	2SA1306
	Q225,Q226 TRANSISTOR	2SC2603
	Q227,Q228 TRANSISTOR	2SC1845
	Q229,Q230 TRANSISTOR	2SA992
	Q231,Q232 TRANSISTOR	2SA1145
	Q233,Q234 TRANSISTOR	2SA992
	Q237 TRANSISTOR	2SC1845
	Q238 TRANSISTOR	2SA992
	Q291-Q294 TRANSISTOR	2SA992
	Q301,Q302 TRANSISTOR	2SC1845
	Q303,Q304 TRANSISTOR	2SC2458
	Q305 TRANSISTOR	2SA1048
	Q306 TRANSISTOR	2SC1815
	Q307 TRANSISTOR	2SC2458
	D101,D102 ZENER DIODE	RD7.5ESB2
	D103 DIODE	1SS252
	D201,D202 ZENER DIODE	RD2.7ESB1
	D209-D216 DIODE	1SS252
	D217-D220 ZENER DIODE	RD15ESB
	D301-D306 DIODE	1SS252
	D307 ZENER DIODE	RD22ESB
	D503,D504 ZENER DIODE	RD18ESB1
	D505,D506 DIODE	11E2
	D507 DIODE	D5SB20F

SWITCHES

Mark	Symbol & Description	Part No.
	S101 PUSH SWITCH	ASG1012
	S701 SWITCH	ASU1016
	S702 SWITCH	ASU1002
	S703 PUSH SWITCH	SULL6S

COIL

Mark	Symbol & Description	Part No.
	L101,L102 COIL	ATH1010
	L107,L108 AXIAL INDUCTOR	LAU3R3K
	L401,L402 COIL	ATH1009

CAPACITORS

Mark	Symbol & Description	Part No.
	C101,C102 AUDIO FILM CAPACITOR	CFTXA103J50
	C103,C104 CERAMIC CAPACITOR	CCCSL271J50
	C105,C106 CERAMIC CAPACITOR	CKCYB472K50
	C107,C108 ELECTROLYTIC CAPACIT	CEXA101M25
	C109,C110 AUDIO FILM CAPACITOR	CFTXA683J50
	C111,C112 AUDIO FILM CAPACITOR	CFTXA183J50
	C113,C114 ELECTR.CAPACITOR	CEANP220M10
	C115,C116 MYLOR FILM CAPACITOR	CQMA392K50
	C117,C118 ELECTROLYTIC CAPACIT	CEXA221M25
	C119,C120 CERAMIC CAPACITOR	CKCYF103Z50
	C121,C122 MYLOR FILM CAPACITOR	CQMA122J50
	C129 CERAMIC CAPACITOR	CKPYX103N25
	C135,C136 ELECTR.CAPACITOR	CEAS470M10
	C137,C138 CERAMIC CAPACITOR	CCCSL151J50
	C139,C140 CERAMIC CAPACITOR	CCCSL330J50
	C141 CERAMIC CAPACITOR	CKCYF103Z50
	C201,C202 ELECTROLYTIC CAPACIT	CEEA2R2M50
	C203,C204 CERAMIC CAPACITOR	CCCSL101K500
	C205,C206 CERAMIC CAPACITOR	CCCSL101J50
	C207,C208 CERAMIC CAPACITOR	CCCSL470J50
	C209,C210 CERAMIC CAPACITOR	CCCSL181J50
	C211,C212 ELECTROLYTIC CAPACIT	CEEA221M16
	C213,C214 CERAMIC CAPACITOR	CCCSL060D500
	C217,C218 ELECTR.CAPACITOR	CEAS101M10

Mark	Symbol & Description	Part No.
	C219,C220 ELECTR.CAPACITOR	CEAS3R3M100
	C221,C222 ELECTR.CAPACITOR	CEAS3R3M100
	C225,C226 ELECTR.CAPACITOR	CEAS331M10
	C227-C230 CERAMIC CAPACITOR	CCCSL330K500
	C231,C232 CERAMIC CAPACITOR	CKCYB122K50
	C233-C236 ELECTR.CAPACITOR	CEAS100M50
	C237,C238 ELECTR.CAPACITOR	CEAS101M50
	C239-C242 POLYESTER CAPACITOR	CQMXA472J100
	C244 CERAMIC CAPACITOR	CKDYX104M25
	C245,C246 CERAMIC CAPACITOR	CKCYB331K50
	C247,C248 AUDIO FILM CAPACITOR	CFTXA103J50
	C251-C254 CERAMIC CAPACITOR	CCCSL680K500
	C255 CERAMIC CAPACITOR	CCCSL680J50
	C256 CERAMIC CAPACITOR	CCDSL470J50
	C301,C302 ELECTR.CAPACITOR	CEAS2R2M50
	C303 ELECTROLYTIC CAPACIT	CEAS471M6
	C304 CERAMIC CAPACITOR	CKCYF103Z50
	C305 ELECTR.CAPACITOR	CEAS101M25
	C306-C308 ELECTR.CAPACITOR	CEASR47M50
	C401,C402 AUDIO FILM CAPACITOR	CFTXA473J50
	C501,C502 ELECTR.CAPACITOR	CEAS100M50
	C503,C504 ELECTR.CAPACITOR	CEAS470M25
	C505 ELECTROLYTIC CAPACIT	ACH1196
	C506 ELECTROLYTIC CAPACIT	ACH1078
	C507 MYLOR FILM CAPACITOR	CQMA103K250
	C508 ELECTR.CAPACITOR	CEAS470M50
	C509 ELECTR.CAPACITOR	CEAS220M50
	C703-C708 CERAMIC CAPACITOR	CCCSL271J50
	C711,C712 CERAMIC CAPACITOR	CCCSL271J50
	C715,C716 CERAMIC CAPACITOR	CCCSL271J50
	C719,C720 CERAMIC CAPACITOR	CCCSL271J50
	C725 CERAMIC CAPACITOR	CCDSL221J50
	C726 CERAMIC CAPACITOR	CKCYF103Z50
	C727,C728 CERAMIC CAPACITOR	CCCSL221J50
	C731 CERAMIC CAPACITOR	CKCYF103Z50
	C733,C734 CERAMIC CAPACITOR	CKDYF102Z50

RESISTORS

Mark	Symbol & Description	Part No.
	R101,R102 CARBON FILM RESISTOR	RDR1/6PU101J
	R107,R108 CARBON FILM RESISTOR	RDR1/6PU563J
	R119-R122 CARBON FILM RESISTOR	RDR1/4PM□□□J
	R133,R134 CARBON FILM RESISTOR	RDR1/6PU391J
	R143,R144 CARBON FILM RESISTOR	RD1/4PM560J
	R201-R204 CARBON FILM RESISTOR	RDR1/4PM□□□J
	R205-R214 CARBON FILM RESISTER	RD1/4PM□□□J
	R215-R218 CARBON FILM RESISTOR	RDR1/4PM□□□J
	R219-R234 CARBON FILM RESISTOR	RD1/4PM□□□J
	R237,R238 CARBON FILM RESISTOR	RDR1/4PM224J
⚠	R239-R242 FUSIBLE RESISTOR	RFA1/4PS101J
⚠	R243,R244 CARBON FILM RESISTOR	RD1/4PMF561J
⚠	R245-R248 FUSIBLE RESISTOR	RFA1/4PS101J
	R249-R252 CARBON FILM RESISTOR	RD1/4PM□□□J
	R255,R256 CARBON FILM RESISTOR	RD1/4PM561J

Mark	Symbol & Description	Part No.
⚠	R257-R260 FUSIBLE RESISTOR	RFA1/4PS101J
⚠	R261-R264 FUSIBLE RESISTOR	RFA1/4PS470J
⚠	R265-R268 FUSIBLE RESISTOR	RFA1/4PS4R7J
⚠	R269,R270 RESISTOR (0.33, 5W)	ACN1063
	R275-R278 CARBON FILM RESISTOR	RD1/4PM□□□J
⚠	R281-R284 FUSIBLE RESISTOR	RFA1/4PS331J
⚠	R285,R286 FUSIBLE RESISTOR	RFA1/4PS101J
⚠	R287,R288 CARBON FILM RESISTOR	RD1/4PMF4R7J
⚠	R289,R290 FUSIBLE RESISTOR	RFA1/4PS101J
	R299 CARBON FILM RESISTOR	RD1/4PM100J
⚠	R301,R302 CARBON FILM RESISTOR	RD1/4PMF222J
⚠	R308 CARBON FILM RESISTOR	RD1/4PMF101J
	R311-R315 CARBON FILM RESISTOR	RD1/4PM□□□J
	R317-R327 CARBON FILM RESISTOR	RD1/4PM221J
⚠	R330 CARBON FILM RESISTOR	RD1/4PMF010J
⚠	R401,R402 CARBON FILM RESISTOR	RD1/4PMFL101J
⚠	R403,R404 METAL OXIDE RESISTOR	RS1LMF331J
⚠	R407,R408 CARBON FILM RESISTOR	RD1/4PMFL100J
⚠	R501,R502 METAL OXIDE RESISTOR	RS1PMF121J
⚠	R503,R504 METAL OXIDE RESISTOR	RS1LMF121J
⚠	R505,R506 METAL OXIDE RESISTOR	RS1PMF121J
⚠	R507,R508 CARBON FILM RESISTOR	RD1/4PMF010J
⚠	R509,R510 METAL OXIDE RESISTOR	RS1LMF272J
	R513-R515 CARBON FILM RESISTOR	RD1/4PM272J
	R516 CARBON FILM RESISTOR	RD1/4PMFL272J
⚠	R517-R520 METAL OXIDE RESISTOR	RS1PMF101J
	R731,R732 CARBON FILM RESISTOR	RD1/4PM103J
	VR201,VR202 VR	ACP1045
	VR701 VARIABLE(100K-20AX2)	ACT1062
	Other resistors	RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	CN4 CONNECTOR(15P)	KPE15
	CN9 JUMPER CONNECTOR	KPC8
	RY301,RY302 RELAY	ASR1037
	RY303 RELAY	ASR1038
	PIN JACK(4P)	AKB1007
	PIN JACK(6P)	AKB1008
	PIN JACK(6P)	AKB1024
	SPEAKER TERMINAL 8-P	AKE1011

1.3 SCHEMATIC DIAGRAM

* Marks are difference between two assemblies.	A-449/HE,SD,KC	A-449/HEWZ, A-449-S/HEWZ
AF COMPLEX ASS'Y	AWZ3628	AWZ3627
L101,L102	VACANT(OPEN)	ATH1010
L107,L108	VACANT(SHORT)	LAU3R3K
C103,C104	CCCSL221J50	CCCSL271J50
C115,C116	VACANT(OPEN)	CQMA392K50
C129	VACANT(OPEN)	CKPYX103N25
C137,C138	VACANT(OPEN)	CCCSL151J50
C139,C140	VACANT(OPEN)	CCCSL330J50
C141	VACANT(OPEN)	CKCYF103Z50
C143,C144	CQMA472K50	VACANT(OPEN)
C213,C214	CCCSL120K500	CCCSL060D500
C215,C216	CCCSL120K500	VACANT(SHORT)
C239-C242	VACANT(OPEN)	CQMXA472J100
C244	VACANT(OPEN)	CKDYX104M25
C245,C246	VACANT(OPEN)	CKCYB331K50
C251-C254	CCCSL330K500	CCCSL680K500
C301,C302	CEANP2R2M50	CEAS2R2M50
C401,C402	CFTXA104J50	CFTXA473J50
C403,C404	CFTXA104J50	VACANT(SHORT)
C703-C708	VACANT(OPEN)	CCCSL271J50
C711,C712	VACANT(OPEN)	CCCSL271J50
C715,C716	VACANT(OPEN)	CCCSL271J50
C719,C720	CKCYB331K50	CCCSL271J50
C725	CKCYF103Z50	CCDSL221J50
C726	VACANT(OPEN)	CKCYF103Z50
C727,C728	VACANT(OPEN)	CCCSL221J50
R103	VACANT(OPEN)	RD1/8PM4R7J
R105,R106	RDR1/6PU100J	RD1/8PM472J
R401,R402	RD1/4PMFL100J	RD1/4PMFL101J
R719,R720	VACANT(SHORT)	RD1/8PM331J
R724	VACANT(OPEN)	RD1/8PM100J
HEAD PHONE ASS'Y	Non supply	Non supply
C801,C802	VACANT(OPEN)	CKCYB392K50
OTHERS		
R1, R2	VACANT(OPEN)	RD1/4PM100J

1.RESISTORS :

Indicated in Ω, 1/8, 1/6, 1/4W,, ±5% tolerance unless otherwise noted k ; kΩ, M ; MΩ, (F) ; ±1%, (G) ; ±2%, (K) ; ±10%, (M) ; ±20% tolerance.

2.CAPACITORS :

Indicated in capacity (μF)/voltage(V) unless otherwise noted p ; pF. Indication without voltage is 50V except electrolytic capacitor.

3.VOLTAGE, CURRENT :

V ; Signal voltage at 60W+60W, 8Ω/80W+80W, 4Ω output(1kHz).

; DC voltage (V) at no input signal.
Value in ( ) is DC voltage at rated power.

⇦mA ; DC current at no input signal.

4.OTHERS :

⊘ ; Adjusting point

The ⚠ mark found on some component parts indicates the inportance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

※ marked capacitors and resistors have parts numbers.

This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

5.SWITCHES : (The underline indicates the switch position)

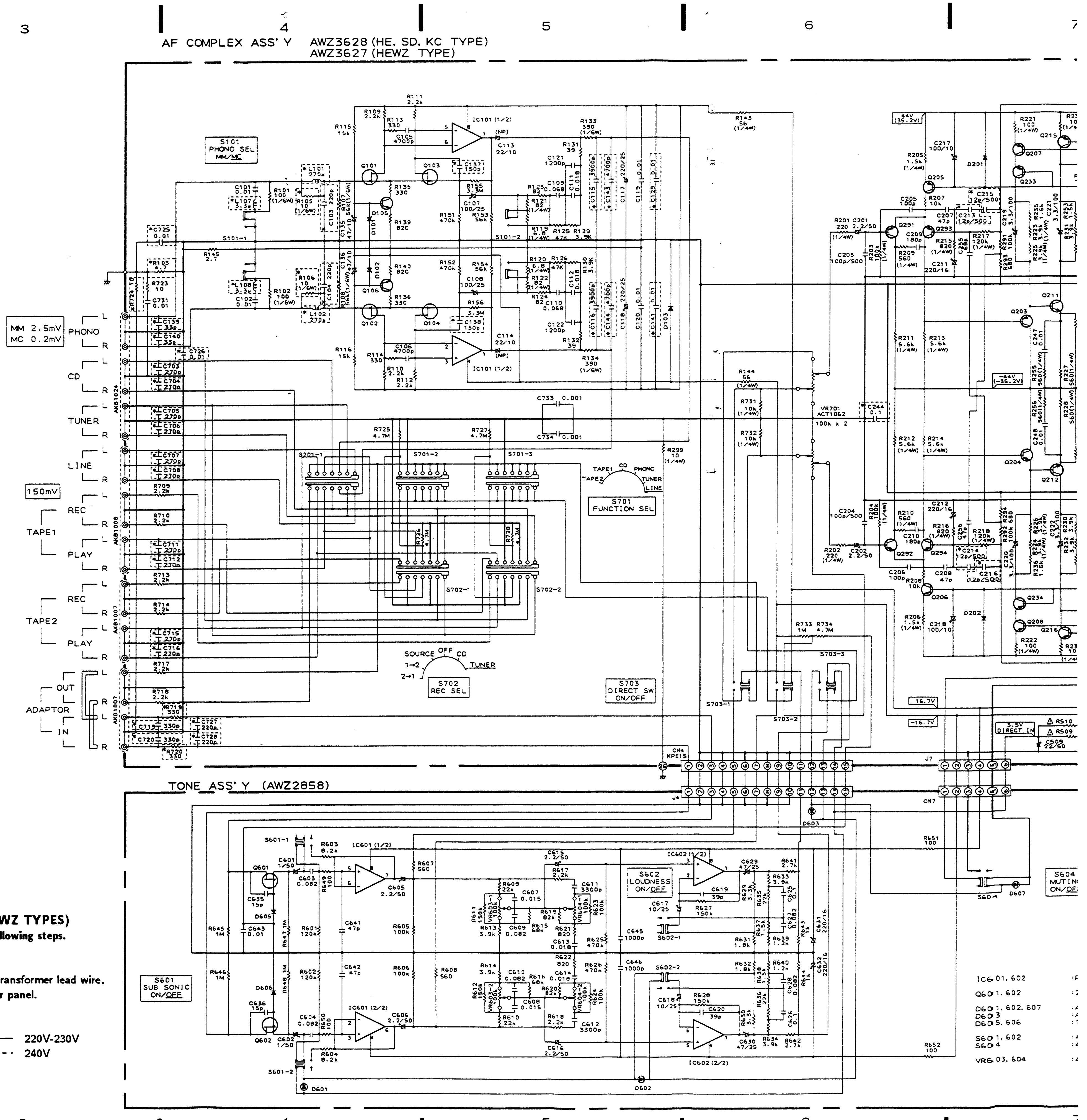
S601 : SUBSONIC(ON-OFF)
S602 : LOUDNESS(ON-OFF)
S604 : MUTING(ON-OFF)
S101 : PHONO SEL(MM-MC)
S701 : FUNCTION SEL(TAPE2-TAPE1-CD-PHONO-TUNER-LINE)
S702 : REC SEL(2→1-1→2-SOURCE-OFF-CD-TUNER)
S703 : DIRECT SW(ON-OFF)
S801-1 : SPEAKERS-A(ON-OFF)
S801-2 : SPEAKERS-A(ON-OFF)
S501 : POWER SW(ON-OFF)

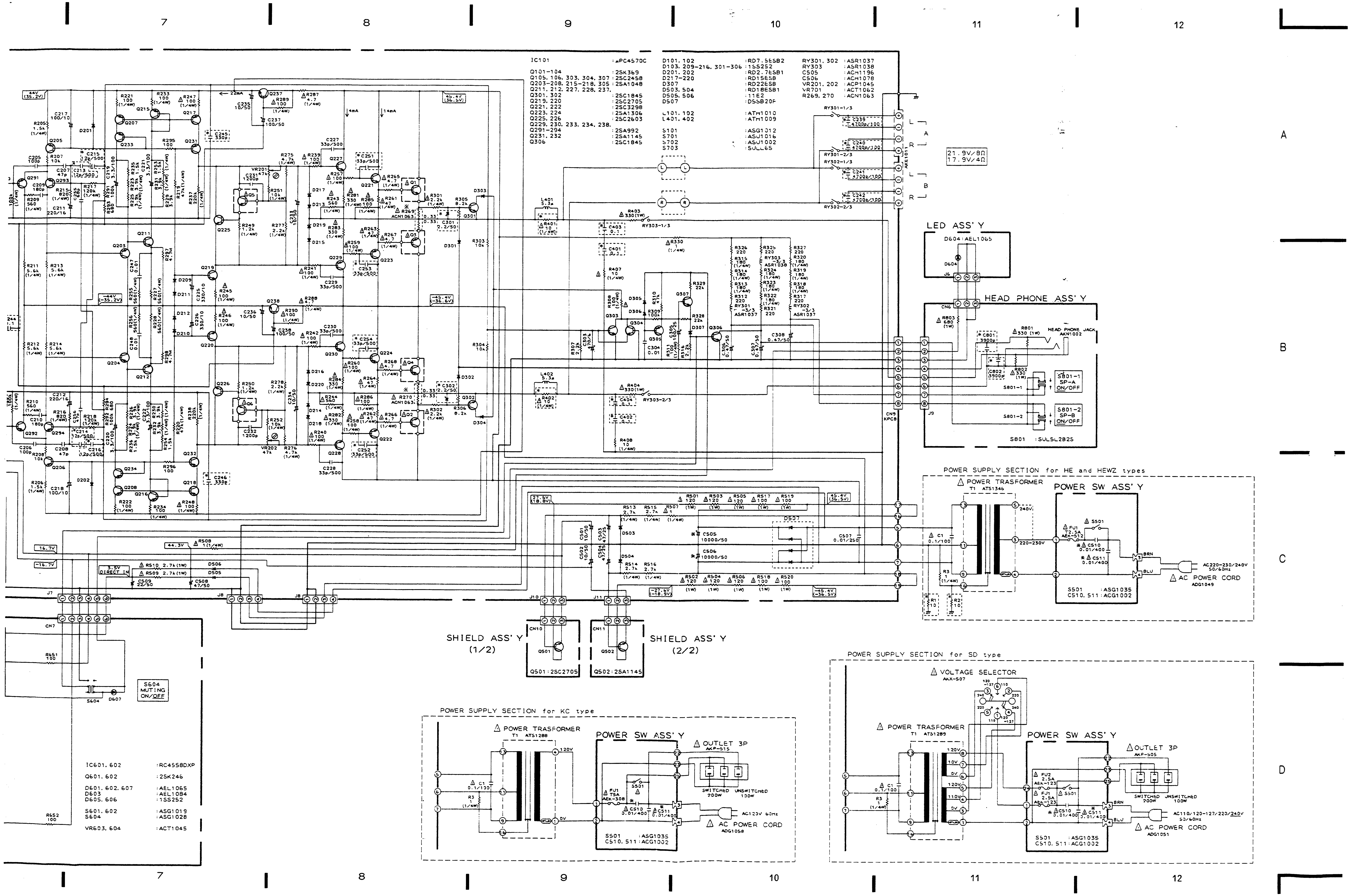
Line Voltage Selection (HE and HEWZ TYPES)

Line voltage can be changed with the following steps.

1. Disconnect the AC power cord.
2. Remove the top cover.
3. Change the connection of the power transformer lead wire.
4. Stick the line voltage label on the rear panel.

Parts No.	Description	
AXX-193	220V label	—— 220V-230V
AXX-192	240V label	----- 240V


AF COMPLEX ASS'Y AWZ3628 (HE, SD, KC TYPE)
AWZ3627 (HEWZ TYPE)
S101 PHONO SEL MM/MC
IC101 (1/2)
IC101 (1/2)
MM 2.5mV
MC 0.2mV
PHONO
CD
TUNER
LINE
150mV
TAPE1
REC
PLAY
TAPE2
REC
PLAY
OUT
ADAPTOR
IN
S701-1
S701-2
S701-3
S701 FUNCTION SEL
TAPE2 TAPE1 CD PHONO TUNER LINE
S702-1
S702-2
SOURCE OFF CD
1→2 TUNER
2→1
S702 REC SEL
S703 DIRECT SW ON/OFF
VR701 ACT1062 100k x 2
TONE ASS'Y (AWZ2858)
S601 SUB SONIC ON/OFF
IC601 (1/2)
IC601 (2/2)
S602 LOUDNESS ON/OFF
IC602 (1/2)
IC602 (2/2)
S604 MUTING ON/OFF
CN4 KPE15
J4
J7
CN7


7
8
9
10
11
12
A
B
C
D
LED ASS'Y
D604:AEL1065
HEAD PHONE ASS'Y
HEAD PHONE JACK AKN1002
S801-1 SP-A ON/OFF
S801-2 SP-B ON/OFF
S801 :SUL5L2B2S
21.9V/8Ω
17.9V/4Ω
AKE1011
RY301-1/3
RY301-2/3
RY302-1/3
RY302-2/3
RY303-1/3
RY303-2/3
POWER SUPPLY SECTION for HE and HEWZ types
POWER TRASFORMER
T1 ATS1346
POWER SW ASS'Y
S501 :ASG1035
C510, 511 :ACG1002
AC POWER CORD
ADG1049
AC220-230/240V 50/60Hz
SHIELD ASS'Y (1/2)
SHIELD ASS'Y (2/2)
Q501:2SC2705
Q502:2SA1145
S604 MUTING ON/OFF
POWER SUPPLY SECTION for KC type
POWER TRASFORMER
T1 ATS1288
POWER SW ASS'Y
OUTLET 3P
AKP-515
SWITCHED 200W
UNSWITCHED 100W
AC120V 60Hz
AC POWER CORD
ADG1058
S501 :ASG1035
C510, 511 :ACG1002
POWER SUPPLY SECTION for SD type
VOLTAGE SELECTOR
AKX-507
POWER TRASFORMER
T1 ATS1289
POWER SW ASS'Y
OUTLET 3P
AKP-505
SWITCHED 200W
UNSWITCHED 100W
AC110/120-127/220/240V 50/60Hz
AC POWER CORD
ADG1051
S501 :ASG1035
C510, 511 :ACG1002

IC101 :µPC4570C

Q101-104 :2SK369
Q105, 106, 303, 304, 307 :2SC2458
Q203-208, 215-218, 305 :2SA1048
Q211, 212, 227, 228, 237,
Q301, 302 :2SC1845
Q219, 220 :2SC2705
Q221, 222 :2SC3298
Q223, 224 :2SA1306
Q225, 226 :2SC2603
Q229, 230, 233, 234, 238,
Q291-294 :2SA992
Q231, 232 :2SA1145
Q306 :2SC1845

D101, 102 :RD7.5ESB2
D103, 209-216, 301-306 :1SS252
D201, 202 :RD2.7ESB1
D217-220 :RD15ESB
D307 :RD22ESB
D503, 504 :RD18ESB1
D505, 506 :11E2
D507 :DSSB20F

L101, 102 :ATH1010
L401, 402 :ATH1009

S101 :ASG1012
S701 :ASU1016
S702 :ASU1002
S703 :SULL6S

RY301, 302 :ASR1037
RY303 :ASR1038
C505 :ACH1196
C506 :ACH1078
VR201, 202 :ACP1045
VR701 :ACT1062
R269, 270 :ACN1063

IC601, 602 :RC4558DXP

Q601, 602 :2SK246

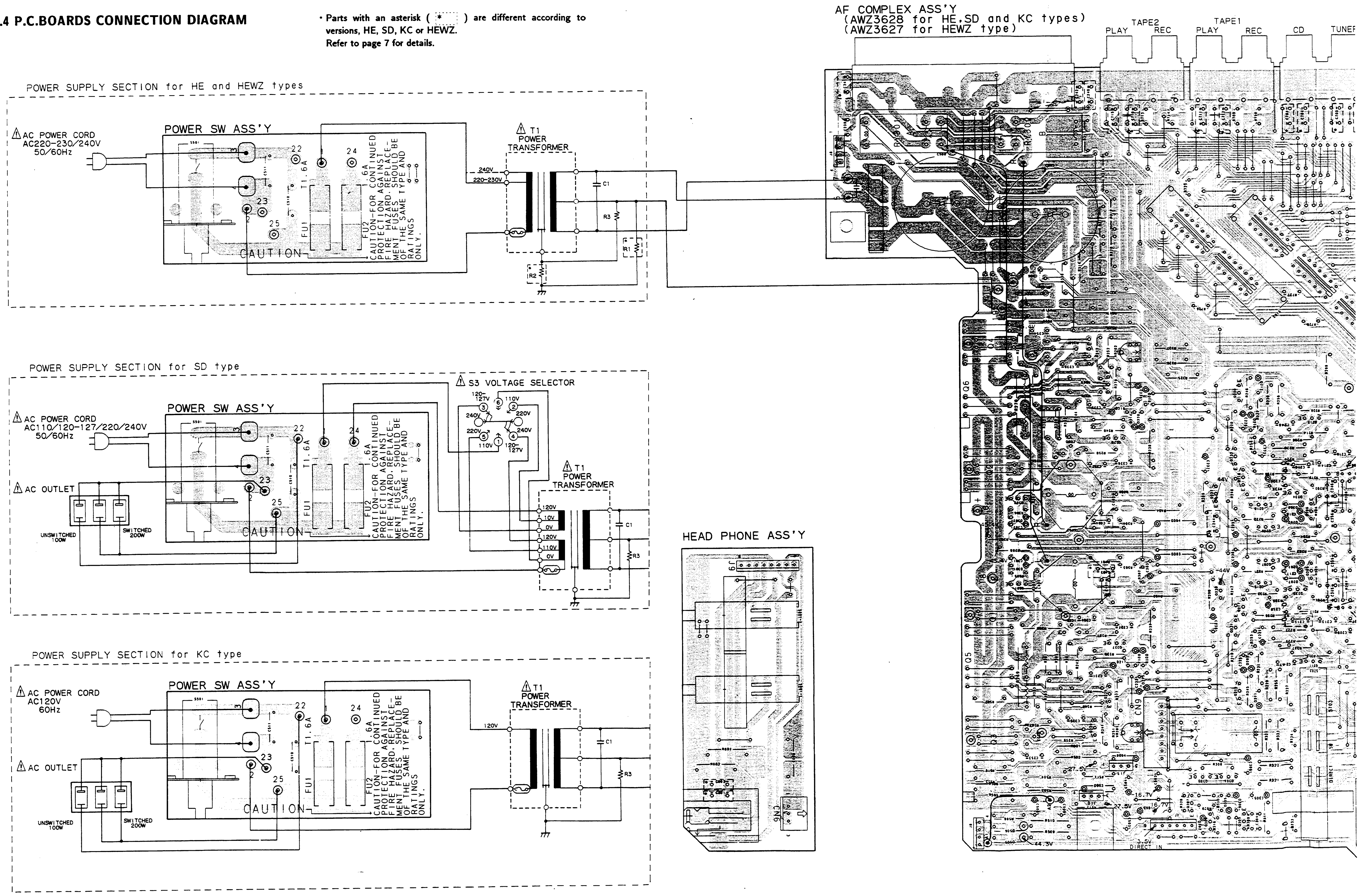
D601, 602, 607 :AEL1065
D603 :AEL1084
D605, 606 :1SS252

S601, 602 :ASG1019
S604 :ASG1028

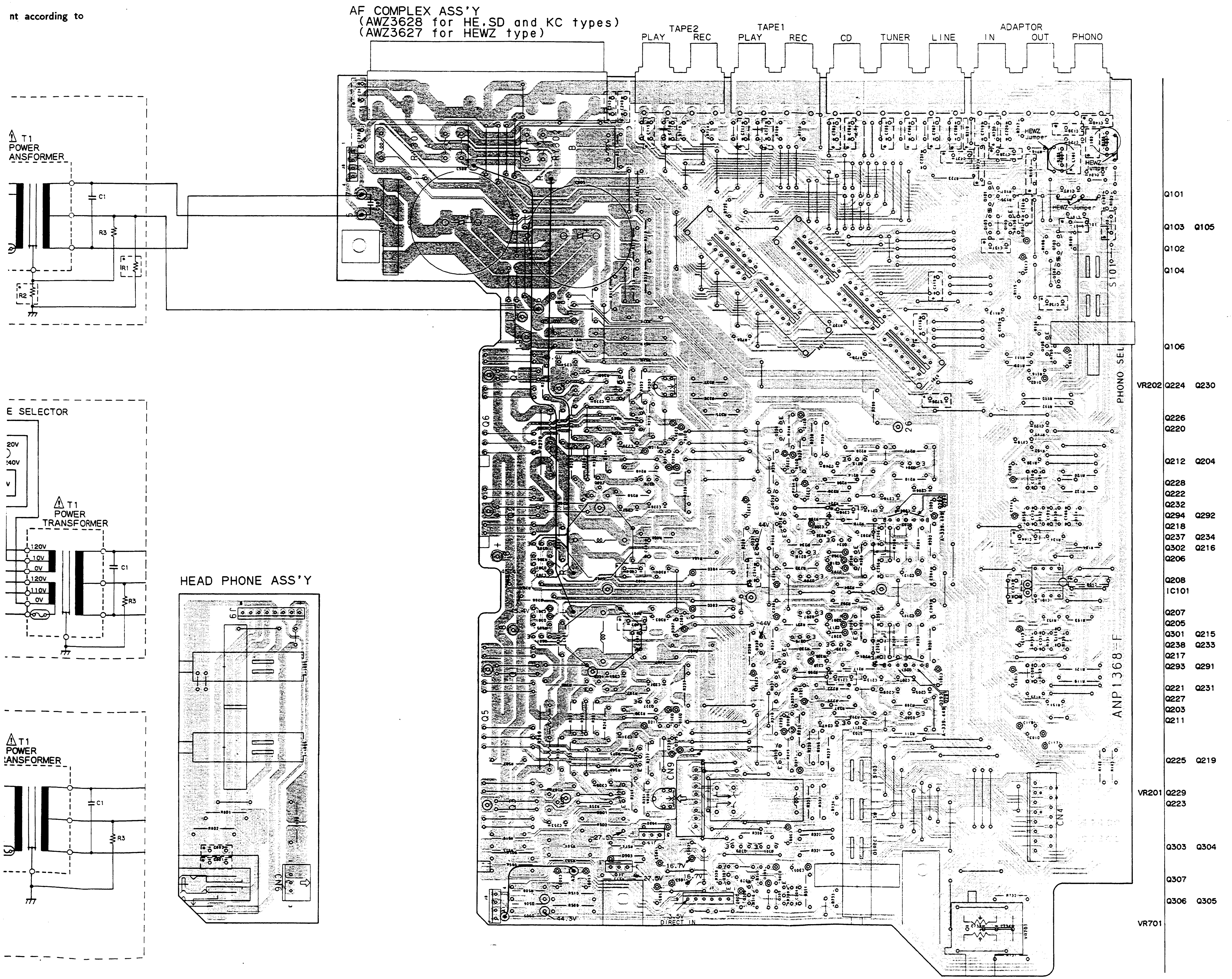
VR603, 604 :ACT1045

1.4 P.C.BOARDS CONNECTION DIAGRAM

- Parts with an asterisk (*) are different according to versions, HE, SD, KC or HEWZ. Refer to page 7 for details.


POWER SUPPLY SECTION for HE and HEWZ types
AC POWER CORD
AC220-230/240V
50/60Hz
POWER SW ASS'Y
22
24
23
25
T1.6A
FU1
FU2
.6A
CAUTION-FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE-MENT FUSES SHOULD BE OF THE SAME TYPE AND RATINGS ONLY.
CAUTION
T1
POWER TRANSFORMER
240V
220-230V
C1
R3
R1
R2
POWER SUPPLY SECTION for SD type
S3 VOLTAGE SELECTOR
120-127V
110V
240V
220V
AC POWER CORD
AC110/120-127/220/240V
50/60Hz
AC OUTLET
UNSWITCHED 100W
SWITCHED 200W
120V
10V
0V
110V
POWER SUPPLY SECTION for KC type
AC POWER CORD
AC120V
60Hz
120V
HEAD PHONE ASS'Y
J6
CN6
AF COMPLEX ASS'Y
(AWZ3628 for HE,SD and KC types)
(AWZ3627 for HEWZ type)
TAPE2
PLAY
REC
TAPE1
PLAY
REC
CD
TUNER
Q6
Q5
CN9
44V
-44V
16.7V
27.5V
-3.5V
44.3V
DIRECT IN

nt according to


3
4
5
6
7
8
9
A
B
C
D
AF COMPLEX ASS'Y
(AWZ3628 for HE,SD and KC types)
(AWZ3627 for HEWZ type)
TAPE2
PLAY
REC
TAPE1
PLAY
REC
CD
TUNER
LINE
ADAPTOR
IN
OUT
PHONO
T1
POWER
ANSFORMER
C1
R3
R1
R2
E SELECTOR
20V
40V
T1
POWER
TRANSFORMER
120V
10V
0V
120V
110V
0V
C1
R3
T1
POWER
ANSFORMER
C1
R3
HEAD PHONE ASS'Y
CN6
HEWZ Jumper
HEWZ Jumper
HEWZ Jumper
S101
PHONO SEL
ANP1368-F
CN4
CN9
DIRECT
DIRECT IN
44V
-44V
27.5V
-27.5V
16.7V
-16.7V
-5V
-44.3V
Q101
Q103 Q105
Q102
Q104
Q106
VR202 Q224 Q230
Q226
Q220
Q212 Q204
Q228
Q222
Q232
Q294 Q292
Q218
Q237 Q234
Q302 Q216
Q206
Q208
IC101
Q207
Q205
Q301 Q215
Q238 Q233
Q217
Q293 Q291
Q221 Q231
Q227
Q203
Q211
Q225 Q219
VR201 Q229
Q223
Q303 Q304
Q307
Q306 Q305
VR701

NOTE

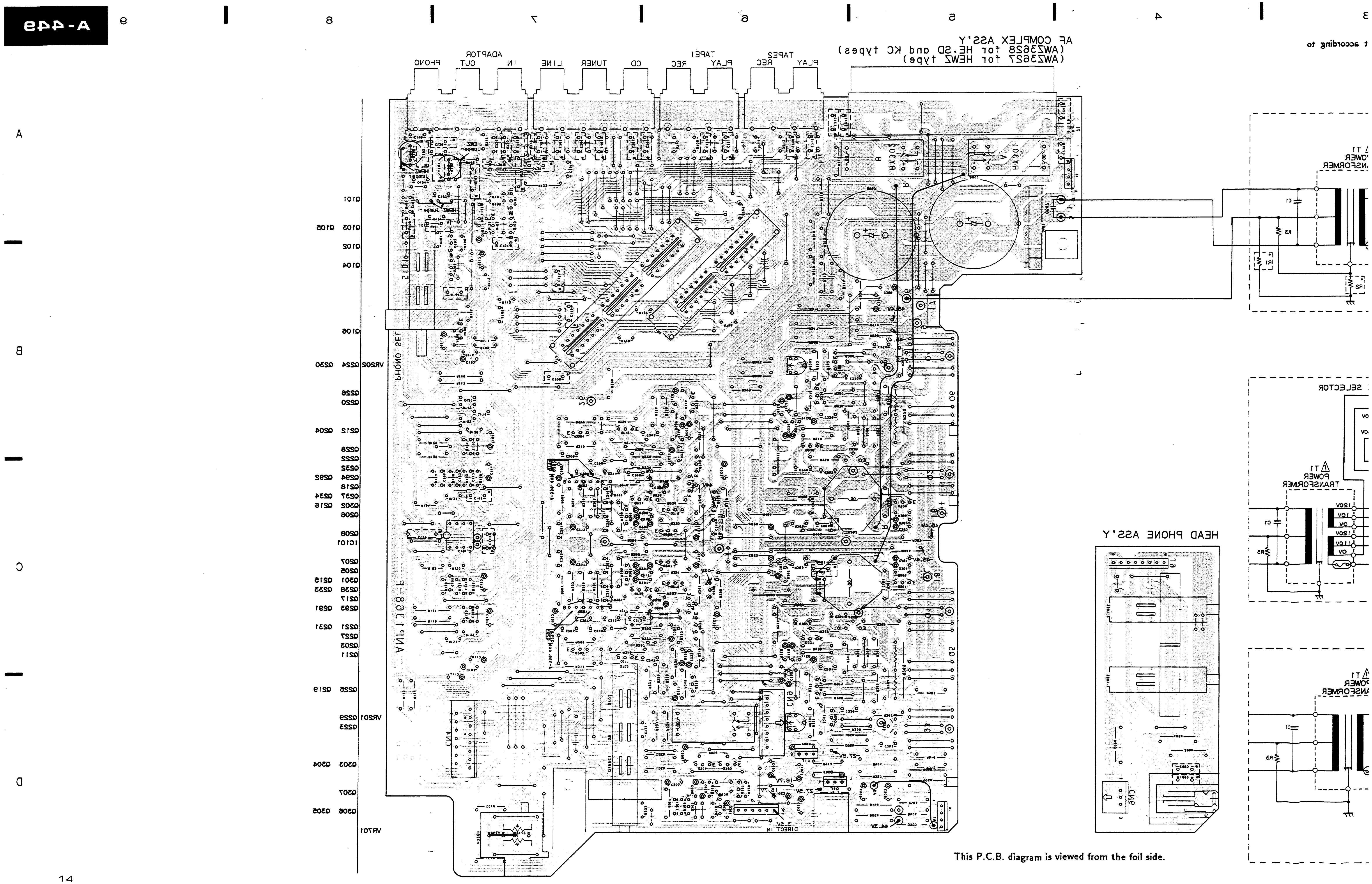
1. This P.C.B connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wirng symbols listed in the following Table.

P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
Q504 E	E or E	Transistor
Q215	or	Radiator type transistor
D203	D203	Diode
R237	R237	Resistor
C513	+	Capacitor (Polarity)
C518		Capacitor (Non-polarity)

Others

P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

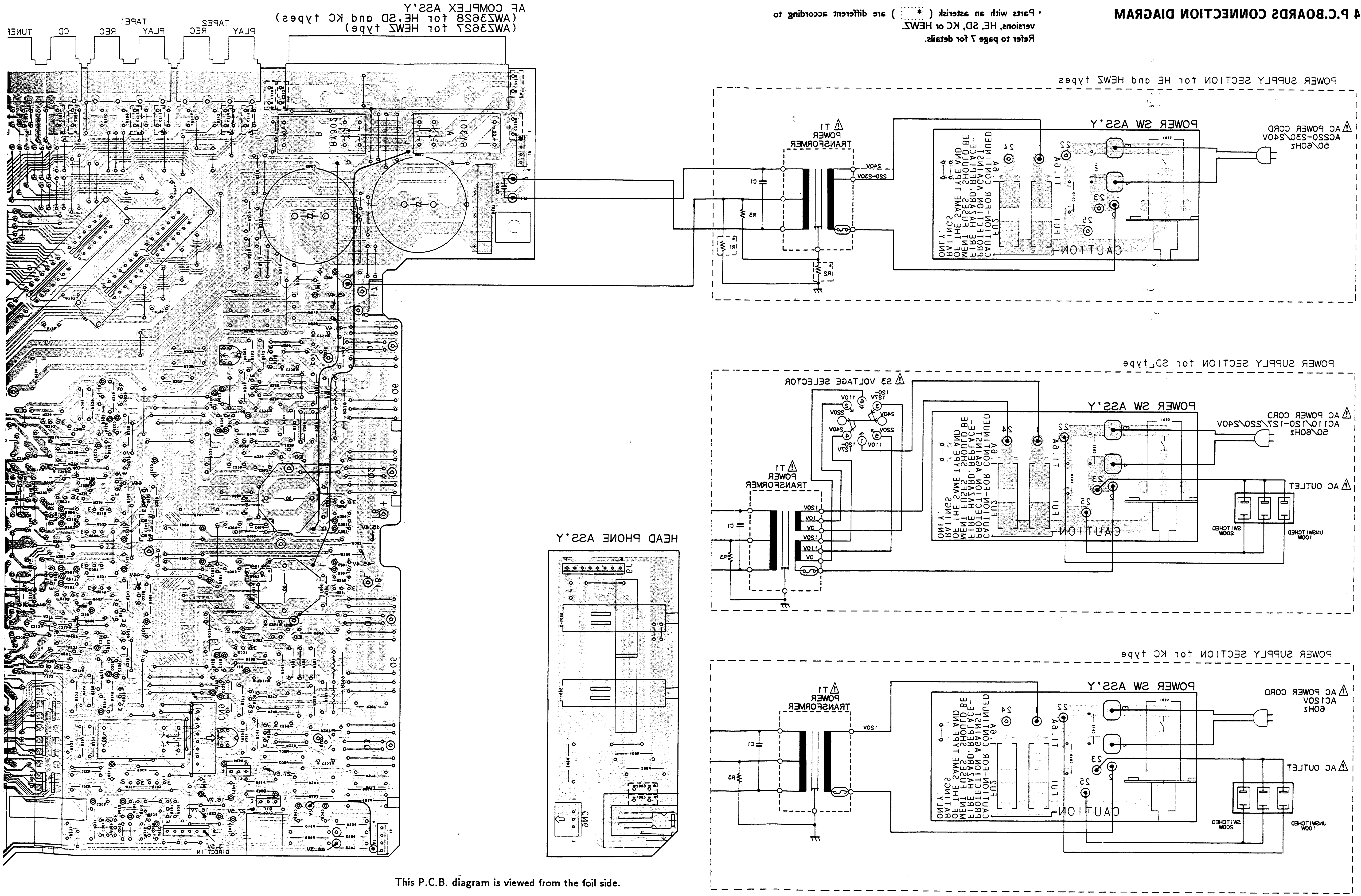
3. The capacitor terminal marked with ◎ (double circles) shows negative terminal.
4. The diode terminal marked with ◎ (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.


A-449
AF COMPLEX ASS'Y
(AWZ3628 for HE,SD and KC types)
(AWZ3627 for HEWZ type)
PHONO
ADAPTOR
OUT
IN
LINE
TUNER
CD
TAPE1
REC
PLAY
TAPE2
REC
PLAY
HEAD PHONE ASS'Y
POWER TRANSFORMER
SELECTOR
DIRECT IN
PHONO SEL
A
B
C
D
9
8
7
6
5
4
3

This P.C.B. diagram is viewed from the foil side.

1.4 P.C.BOARDS CONNECTION DIAGRAM

• Parts with an asterisk (*) are different according to versions, HE, SD, KC or HEWZ.
Refer to page 7 for details.


AF COMPLEX ASS'Y
(AWZ3628 for HE,SD and KC types)
(AWZ3627 for HEWZ type)
TUNER
CD
TAPE1
REC
PLAY
TAPE2
REC
PLAY
DIRECT IN
HEAD PHONE ASS'Y
CN6
POWER SUPPLY SECTION for HE and HEWZ types
T1 POWER TRANSFORMER
240V
220-230V
C1
R3
R1
R2
POWER SW ASS'Y
AC POWER CORD
AC220-230/240V
50/60Hz
CAUTION-FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACEMENT FUSES SHOULD BE OF THE SAME TYPE AND RATINGS ONLY.
FU1
T1.6A
22
23
24
25
CAUTION
POWER SUPPLY SECTION for SD type
S3 VOLTAGE SELECTOR
110V
120-127V
220V
240V
T1 POWER TRANSFORMER
120V
10V
0V
POWER SW ASS'Y
AC POWER CORD
AC110/120-127/220/240V
50/60Hz
AC OUTLET
UNSWITCHED 100W
SWITCHED 200W
POWER SUPPLY SECTION for KC type
T1 POWER TRANSFORMER
120V
POWER SW ASS'Y
AC POWER CORD
AC120V
60Hz
AC OUTLET
UNSWITCHED 100W
SWITCHED 200W

This P.C.B. diagram is viewed from the foil side.

2. FOR A-339/KU, HE, HEWZ, SD AND A-339-S/HEWZ TYPES

2.1 CONTRAST OF MISCELLANEOUS PARTS

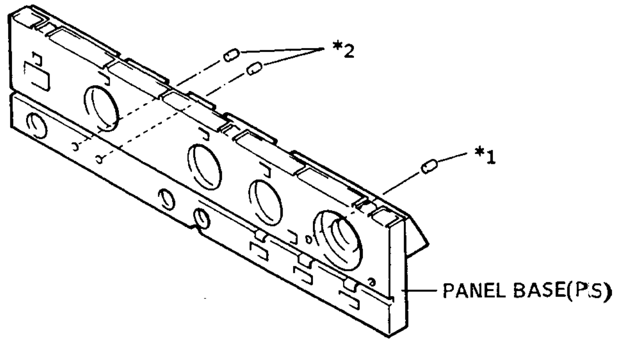
NOTES :

- *Parts without part number cannot be supplied.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

The A-339/KU, HE, HEWZ, SD and A-339-S/HEWZ types are the same as the A-337/HE type with the exception of the following sections.

Mark	Symbol & Description	Part No.						Remarks
		A-337/HE	A-339/KU	A-339/HE	A-339/SD	A-339/HEWZ	A-339-S/HEWZ	
◉	AF COMPLEX assembly	AWZ2867	AWZ3483	AWZ3483	AWZ3483	AWZ3482	AWZ3482	
	HEADPHONE assembly	Non supply	Non supply	Non supply	Non supply	Non supply	Non supply	
	POWER SW assembly	Non supply	Non supply	Non supply	Non supply	Non supply	Non supply	
⚠	AC power cord	ADG1049	ADG1057	ADG1049	ADG1051	ADG1049	ADG1049	
⚠	Fuse (FU1 T2A)	AEK-405	....	AEK-511	....	AEK-511	AEK-511	
⚠	Fuse (FU1 T5A)	....	AEK-308	....	....	....	....	
⚠	Fuse (FU1, FU2 1.6A)	....	....	....	AEK-122	....	....	
⚠	Power transformer(T1)	ATS1278	ATS1343	ATS1345	ATS1344	ATS1345	ATS1345	
⚠	Capacitor(C1)	CQMXA473J100	CQMXA473J100	CQMXA473J100	CQMXA473J100	CQMXA104J100	CQMXA104J100	
	Resistors(R1, R2)	....	....	....	....	RD1/4PM100J	RD1/4PM100J	
	Resistor (R3)	....	RD1/4PM010J	RD1/4PM010J	RD1/4PM010J	RD1/4PM010J	RD1/4PM010J	
⚠	AC socket(OUTLET 3P)	....	AKP-515	....	AKP-515	....	....	
⚠	Voltage selector (S3)	....	....	....	AKX-507	....	....	
	Strain relief	AEC-882	....	AEC-882	AEC-882	AEC-882	AEC-882	
	Screw	BBT30P060FZK	BBT30P060FZK	BBT30P060FZK	BBT30P060FZK	BBT30P060FZK	ABA-274	
	Rotary knob S (PLS)	AAB1155	AAB1155	AAB1155	AAB1155	AAB1155	AAB1238	
	Rotary knob L (PLS)	AAB1160	AAB1160	AAB1160	AAB1160	AAB1160	AAB1161	
	Rotary knob R (PLS)	AAB1162	AAB1162	AAB1162	AAB1162	AAB1162	AAB1163	
	Rotary knob M (PLS)	AAB1166	AAB1166	AAB1166	AAB1166	AAB1166	AAB1167	
	Push knob C	AAD1366	AAD1366	AAD1366	AAD1366	AAD1366	AAD1367	*1
	Push knob C	AAD1803	AAD1366	AAD1366	AAD1366	AAD1366	AAD1367	*2
	Push knob	AAD1536	AAD1536	AAD1536	AAD1536	AAD1536	AAD1538	
	Knob (POWER)	AAD1535	AAD1984	AAD1984	AAD1984	AAD1984	AAD2040	
	Packing case	AHD1863	AHD2098	AHD2075	AHD2075	AHD2075	AHD2076	
	Insulator assembly	AMR2140	AMR2141	AMR2140	AMR2141	AMR2140	AMR2140	
	Front panel	ANB1397	ANB1460	ANB1460	ANB1460	ANB1460	ANB1461	
	Bonnet case	AZN1799	AZN1799	AZN1799	AZN1799	AZN1799	AZN1800	
	Panel base (PLS)	AMB1651	AMB1651	AMB1651	AMB1651	AMB1651	AMB1652	
	Operating instructions (English, French, German, Italian, Swedish, Dutch, Spanish, Portuguese)	ARE1162	....	ARE1196	....	....	....	
	Operating instructions (German)	....	....	....	ARC1271	ARC1270	ARC1270	
	Operating instructions (English, French)	....	ARE1197	....	ARE1197	....	....	

*1, *2 : Push knob C are assembled as shown below.



2.2 P.C.B's PARTS LIST

NOTES :

- *Parts without part number cannot be supplied.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 *When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).*

560Ω 56×10^1 561 ………………………… $RD1/4PS\boxed{5}\boxed{6}\boxed{1}J$
$47k\Omega$ 47×10^3 473 ………………………… $RD1/4PS\boxed{4}\boxed{7}\boxed{3}J$
0.5Ω 0R5 ………………………… $RD2H\boxed{0}\boxed{R}\boxed{5}K$
1Ω 010 ………………………… $RD1P\boxed{0}\boxed{1}\boxed{0}K$

Ex.2 *When there are 3 effective digits (such as in high precision metal film resistors).*

$5.62k\Omega$ 562×10^1 5621 ………………………… $RD1/4SR\boxed{5}\boxed{6}\boxed{2}\boxed{1}F$

2.2.1 For A-339/KU, HE, and SD types

Mark	Symbol & Description	Part No.
	HEADPHONE ASSEMBLY	
	SWITCHES	
	S801 PUSH SWITCH	SUL5L2B2S
	RESISTORS	
⚠	R801,R802 METAL OXIDE RESISTOR	RS1PMF331J
⚠	R803 METAL OXIDE RESISTOR	RS1LMF561J
	OTHERS	
	JACK	AKN1002
	POWER SW ASSEMBLY	
	SWITCHES	
⚠	S501 PUSH SWITCH	ASG1035
	CAPACITORS	
⚠	C510,C511 CKA (0.01/AC400V)	ACG1002
	◉AF COMPLEX ASSEMBLY (AWZ3483)	
	SEMICONDUCTORS	
	IC101 OP-AMP-IC	M5220P
	Q203-Q208 TRANSISTOR	2SA1048
	Q211,Q212 TRANSISTOR	2SC1845
	Q215-Q218 TRANSISTOR	2SA1048
	Q219,Q220 TRANSISTOR	2SC2705
	Q221,Q222 TRANSISTOR	2SC3298

Mark	Symbol & Description	Part No.
	Q223,Q224 TRANSISTOR	2SA1306
	Q225,Q226 TRANSISTOR	2SC2603
	Q227,Q228 TRANSISTOR	2SC1845
	Q229,Q230 TRANSISTOR	2SA992
	Q231,Q232 TRANSISTOR	2SA1145
	Q233,Q234 TRANSISTOR	2SA992
	Q237 TRANSISTOR	2SC1845
	Q238 TRANSISTOR	2SA992
	Q291-Q294 TRANSISTOR	2SA992
	Q301,Q302 TRANSISTOR	2SC1845
	Q303,Q304 TRANSISTOR	2SC2458
	Q305 TRANSISTOR	2SA1048
	Q306 TRANSISTOR	2SC1815
	Q307 TRANSISTOR	2SC2458
	D201,D202 ZENER DIODE	RD2.7ESB1
	D209-D216 DIODE	1SS252
	D217-D220 ZENER DIODE	RD8.2ESB1
	D301-D306 DIODE	1SS252
	D307 ZENER DIODE	RD15ESB
	D503,D504 ZENER DIODE	RD16ESB3
	D505,D506 DIODE	11E2
	D507 DIODE	D5SB20F
	SWITCHES	
	S701 SWITCH	ASU1016
	S702 SWITCH	ASU1002
	S703 PUSH SWITCH	SULL6S
	COIL	
	L401,L402 COIL	ATH1009

Mark	Symbol & Description	Part No.
	CAPACITORS	
	C103,C104 CERAMIC CAPACITOR	CCCSL221J50
	C107,C108 ELECTR.CAPACITOR	CEAS101M10
	C109,C110 AUDIO FILM CAPACITOR	CFTXA683J50
	C111,C112 AUDIO FILM CAPACITOR	CFTXA183J50
	C113,C114 ELECTR.CAPACITOR	CEAS4R7M50
	C117,C118 ELECTR.CAPACITOR	CEAS221M25
	C119,C120 CERAMIC CAPACITOR	CKCYF103Z50
	C121,C122 MYLOR FILM CAPACITOR	CQMA122J50
	C123,C124 ELECTR.CAPACITOR	CEAS100M50
	C143,C144 MYLOR FILM CAPACITOR	CQMA472K50
	C201,C202 ELECTROLYTIC CAPACIT	CEEA2R2M50
	C203,C204 CERAMIC CAPACITOR	CCCSL101K500
	C205,C206 CERAMIC CAPACITOR	CCCSL101J50
	C207,C208 CERAMIC CAPACITOR	CCCSL470J50
	C209,C210 CERAMIC CAPACITOR	CCCSL181J50
	C211,C212 ELECTROLYTIC CAPACIT	CEEA221M16
	C213-C216 CERAMIC CAPACITOR	CCCSL120K500
	C217,C218 ELECTR.CAPACITOR	CEAS101M10
	C219-C222 ELECTR.CAPACITOR	CEAS3R3M100
	C225,C226 ELECTR.CAPACITOR	CEAS331M10
	C227-C230 CERAMIC CAPACITOR	CCCSL330K500
	C231,C232 CERAMIC CAPACITOR	CKCYB122K50
	C233-C236 ELECTR.CAPACITOR	CEAS100M50
	C237,C238 ELECTR.CAPACITOR	CEAS101M50
	C247,C248 AUDIO FILM CAPACITOR	CFTXA103J50
	C251-C254 CERAMIC CAPACITOR	CCCSL330K500
	C255 CERAMIC CAPACITOR	CCCSL680J50
	C256 CERAMIC CAPACITOR	CCDSL470J50
	C301,C302 ELECTR.CAPACITOR	CEANP2R2M50
	C303 ELECTROLYTIC CAPACIT	CEAS471M6
	C304 CERAMIC CAPACITOR	CKCYF103Z50
	C305 ELECTR.CAPACITOR	CEAS101M25
	C306-C308 ELECTR.CAPACITOR	CEASR47M50
	C401-C404 AUDIO FILM CAPACITOR	CFTXA104J50
	C501,C502 ELECTR.CAPACITOR	CEAS470M25
	C505 ELECTROLYTIC CAPACIT	ACH1189
	C506 ELECTROLYTIC CAPACIT	ACH1190
	C508 ELECTR.CAPACITOR	CEAS470M50
	C509 ELECTR.CAPACITOR	CEAS220M50
	C719,C720 CERAMIC CAPACITOR	CKCYB331K50
	C725,C731 CERAMIC CAPACITOR	CKCYF103Z50
	RESISTORS	
	R105,R106 CARBON FILM RESISTOR	RDR1/6PU100J
	R121,R122 CARBON FILM RESISTOR	RDR1/4PM820J
	R133,R134 CARBON FILM RESISTOR	RDR1/6PU471J
	R141,R142 CARBON FILM RESISTOR	RDR1/6PU563J
	R143,R144 CARBON FILM RESISTOR	RD1/4PM560J
	R201-R204 CARBON FILM RESISTOR	RDR1/4PM□□□J
	R205-R214 CARBON FILM RESISTER	RD1/4PM□□□J

Mark	Symbol & Description	Part No.
	R215-R218 CARBON FILM RESISTOR	RDR1/4PM□□□J
	R219-R234 CARBON FILM RESISTOR	RD1/4PM□□□J
	R237,R238 CARBON FILM RESISTOR	RDR1/4PM224J
⚠	R239-R242 FUSIBLE RESISTOR	RFA1/4PS101J
⚠	R243,R244 CARBON FILM RESISTOR	RD1/4PMF561J
⚠	R245-R248 FUSIBLE RESISTOR	RFA1/4PS101J
	R249-R252 CARBON FILM RESISTOR	RD1/4PM□□□J
⚠	R254 CARBONFILM RESISTOR	RD1/8PM122J
	R255,R256 CARBON FILM RESISTOR	RD1/4PM561J
⚠	R257-R260 FUSIBLE RESISTOR	RFA1/4PS101J
⚠	R261-R264 FUSIBLE RESISTOR	RFA1/4PS470J
⚠	R265-R268 FUSIBLE RESISTOR	RFA1/4PS4R7J
⚠	R269,R270 RESISTOR (0.33, 5W)	ACN1063
	R275-R278 CARBON FILM RESISTOR	RD1/4PM□□□J
⚠	R281-R284 FUSIBLE RESISTOR	RFA1/4PS331J
⚠	R285,R286 FUSIBLE RESISTOR	RFA1/4PS101J
⚠	R287,R288 FUSIBLE RESISTOR	RFA1/4PS4R7J
⚠	R289,R290 FUSIBLE RESISTOR	RFA1/4PS101J
	R299 CARBON FILM RESISTOR	RD1/4PM100J
⚠	R301,R302 CARBON FILM RESISTOR	RD1/4PMF222J
⚠	R308 CARBON FILM RESISTOR	RD1/4PMF101J
	R311-R315 CARBON FILM RESISTOR	RD1/4PM□□□J
	R317-R327 CARBON FILM RESISTOR	RD1/4PM□□□J
⚠	R330 CARBON FILM RESISTOR	RD1/4PMF010J
⚠	R401,R402 CARBON FILM RESISTOR	RD1/4PMFL101J
⚠	R403,R404 METAL OXIDE RESISTOR	RS1LMF331J
⚠	R407,R408 CARBON FILM RESISTOR	RD1/4PMFL100J
	R501-R506 CARBON FILM RESISTOR	RD1/2PM□□□J
⚠	R508 CARBON FILM RESISTOR	RD1/4PMF010J
⚠	R509 METAL OXIDE RESISTOR	RS1LMF222J
⚠	R510 METAL OXIDE RESISTOR	RS1LMF272J
	R517-R520 CARBONFILM RESISTOR	RD1/2PM221J
	R731,R732 CARBON FILM RESISTOR	RD1/4PM103J
	VR201,VR202 VR	ACP1045
	VR701 VARIABLE(100K-20AX2)	ACT1062
	Other resistors	RD1/8PM□□□J
	OTHERS	
	CN4 CONNECTOR(15P)	KPE15
	CN9 JUMPER CONNECTOR	KPC8
	RY301-RY303 RELAY	ASR1038
	PIN JACK(4P)	AKB1007
	PIN JACK(6P)	AKB1008
	PIN JACK(6P)	AKB1024
	SPEAKER TERMINAL 8-P	AKE1011

2.2.2 For A-339/HEWZ and A-339-S/HEWZ types

POWER SW ASSEMBLY

SWITCHES

Mark	Symbol & Description	Part No.
⚠	S501 PUSH SWITCH	ASG1035

CAPACITORS

Mark	Symbol & Description	Part No.
⚠	C510,C511 CKA (0.01/AC400V)	ACG1002

HEADPHONE ASSEMBLY

SWITCHES

Mark	Symbol & Description	Part No.
	S801 PUSH SWITCH	SUL5L2B2S

CAPACITORS

Mark	Symbol & Description	Part No.
	C801,C802 CERAMIC CAPACITOR	CKCYB392K50

RESISTORS

Mark	Symbol & Description	Part No.
⚠	R801,R802 METAL OXIDE RESISTOR	RS1PMF331J
⚠	R803 METAL OXIDE RESISTOR	RS1LMF561J

OTHERS

Mark	Symbol & Description	Part No.
	JACK	AKN1002

●AF COMPLEX ASSEMBLY (AWZ3482)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
	IC101 OP-AMP-IC	M5220P
	Q203-Q208 TRANSISTOR	2SA1048
	Q211,Q212 TRANSISTOR	2SC1845
	Q215-Q218 TRANSISTOR	2SA1048
	Q219,Q220 TRANSISTOR	2SC2705
	Q221,Q222 TRANSISTOR	2SC3298
	Q223,Q224 TRANSISTOR	2SA1306
	Q225,Q226 TRANSISTOR	2SC2603
	Q227,Q228 TRANSISTOR	2SC1845
	Q229,Q230 TRANSISTOR	2SA992
	Q231,Q232 TRANSISTOR	2SA1145
	Q233,Q234 TRANSISTOR	2SA992
	Q237 TRANSISTOR	2SC1845
	Q238 TRANSISTOR	2SA992
	Q291-Q294 TRANSISTOR	2SA992
	Q301,Q302 TRANSISTOR	2SC1845
	Q303,Q304 TRANSISTOR	2SC2458
	Q305 TRANSISTOR	2SA1048
	Q306 TRANSISTOR	2SC1815
	Q307 TRANSISTOR	2SC2458
	D201,D202 ZENER DIODE	RD2.7ESB1
	D209-D216 DIODE	1SS252
	D217-D220 ZENER DIODE	RD8.2ESB1
	D301-D306 DIODE	1SS252
	D307 ZENER DIODE	RD15ESB
	D503,D504 ZENER DIODE	RD16ESB3
	D505,D506 DIODE	11E2
	D507 DIODE	D5SB20F

SWITCHES

Mark	Symbol & Description	Part No.
	S701 SWITCH	ASU1016
	S702 SWITCH	ASU1002
	S703 PUSH SWITCH	SULL6S

COIL

Mark	Symbol & Description	Part No.
	L103-L106 AXIAL INDUCTOR	LAU221K
	L401,L402 COIL	ATH1009

CAPACITORS

Mark	Symbol & Description	Part No.
	C103,C104 CERAMIC CAPACITOR	CCCSL330J50
	C107,C108 ELECTR.CAPACITOR	CEAS101M10
	C109,C110 AUDIO FILM CAPACITOR	CFTXA683J50
	C111,C112 AUDIO FILM CAPACITOR	CFTXA183J50
	C113,C114 ELECTR.CAPACITOR	CEAS4R7M50
	C115,C116 MYLOR FILM CAPACITOR	CQMA392K50
	C117,C118 ELECTR.CAPACITOR	CEAS221M25
	C119,C120 CERAMIC CAPACITOR	CKCYF103Z50
	C121,C122 MYLOR FILM CAPACITOR	CQMA122J50
	C123,C124 ELECTR.CAPACITOR	CEAS100M50
	C125,C126 CERAMIC CAPACITOR	CCCSL101J50
	C127,C128 CERAMIC CAPACITOR	CCDSL221J50
	C129 CERAMIC CAPACITOR	CKPYX103N25
	C139,C140 CERAMIC CAPACITOR	CCDSL330J50
	C141 CERAMIC CAPACITOR	CKCYF103Z50
	C201,C202 ELECTROLYTIC CAPACIT	CEEA2R2M50
	C203,C204 CERAMIC CAPACITOR	CCCSL101K500
	C205,C206 CERAMIC CAPACITOR	CCCSL101J50
	C207,C208 CERAMIC CAPACITOR	CCCSL470J50
	C209,C210 CERAMIC CAPACITOR	CCCSL181J50
	C211,C212 ELECTROLYTIC CAPACIT	CEEA221M16
	C213,C214 CERAMIC CAPACITOR	CCCSL060D500
	C217,C218 ELECTR.CAPACITOR	CEAS101M10
	C219-C222 ELECTR.CAPACITOR	CEAS3R3M100
	C225,C226 ELECTR.CAPACITOR	CEAS331M10
	C227-C230 CERAMIC CAPACITOR	CCCSL330K500
	C231,C232 CERAMIC CAPACITOR	CKCYB122K50
	C233-C236 ELECTR.CAPACITOR	CEAS100M50
	C237,C238 ELECTR.CAPACITOR	CEAS101M50
	C239-C242 POLYESTER CAPACITOR	CQMXA472J100

Mark	Symbol & Description	Part No.
	C244 CERAMIC CAPACITOR	CKDYX104M25
	C245,C246 CERAMIC CAPACITOR	CKCYB331K50
	C247,C248 AUDIO FILM CAPACITOR	CFTXA103J50
	C251-C254 CERAMIC CAPACITOR	CCCSL680K500
	C255 CERAMIC CAPACITOR	CCCSL680J50
	C256 CERAMIC CAPACITOR	CCDSL470J50
	C301,C302 ELECTR.CAPACITOR	CEAS2R2M50
	C303 ELECTROLYTIC CAPACIT	CEAS471M6
	C304 CERAMIC CAPACITOR	CKCYF103Z50
	C305 ELECTR.CAPACITOR	CEAS101M25
	C306-C308 ELECTR.CAPACITOR	CEASR47M50
	C401,C402 AUDIO FILM CAPACITOR	CFTXA473J50
	C501,C502 ELECTR.CAPACITOR	CEAS470M25
	C505 ELECTROLYTIC CAPACIT	ACH1189
	C506 ELECTROLYTIC CAPACIT	ACH1190
	C508 ELECTR.CAPACITOR	CEAS470M50
	C509 ELECTR.CAPACITOR	CEAS220M50
	C703-C708 CERAMIC CAPACITOR	CCCSL271J50
	C711,C712 CERAMIC CAPACITOR	CCCSL271J50
	C715,C716 CERAMIC CAPACITOR	CCCSL271J50
	C719,C720 CERAMIC CAPACITOR	CCCSL271J50
	C725 CERAMIC CAPACITOR	CCCSL221J50
	C727,C728 CERAMIC CAPACITOR	CCCSL221J50
	C731 CERAMIC CAPACITOR	CKCYF103Z50
RESISTORS		
	R121,R122 CARBON FILM RESISTOR	RDR1/4PM820J
	R133,R134 CARBON FILM RESISTOR	RDR1/6PU471J
	R141,R142 CARBON FILM RESISTOR	RDR1/6PU563J
	R143,R144 CARBON FILM RESISTOR	RD1/4PM560J
	R201-R204 CARBON FILM RESISTOR	RDR1/4PM□□□J
	R205-R214 CARBON FILM RESISTER	RD1/4PM□□□J
	R215-R218 CARBON FILM RESISTOR	RDR1/4PM□□□J
	R219-R234 CARBON FILM RESISTOR	RD1/4PM□□□J
	R237,R238 CARBON FILM RESISTOR	RDR1/4PM224J
⚠	R239-R242 FUSIBLE RESISTOR	RFA1/4PS101J
⚠	R243,R244 CARBON FILM RESISTOR	RD1/4PMF561J
⚠	R245-R248 FUSIBLE RESISTOR	RFA1/4PS101J
	R249-R252 CARBON FILM RESISTOR	RD1/4PM□□□J
	R255,R256 CARBON FILM RESISTOR	RD1/4PM561J
⚠	R257-R260 FUSIBLE RESISTOR	RFA1/4PS101J
⚠	R261-R264 FUSIBLE RESISTOR	RFA1/4PS470J
⚠	R265-R268 FUSIBLE RESISTOR	RFA1/4PS4R7J
⚠	R269,R270 RESISTOR (0.33, 5W)	ACN1063
	R275-R278 CARBON FILM RESISTOR	RD1/4PM□□□J
⚠	R281-R284 FUSIBLE RESISTOR	RFA1/4PS331J
⚠	R285,R286 FUSIBLE RESISTOR	RFA1/4PS101J
⚠	R287,R288 FUSIBLE RESISTOR	RFA1/4PS4R7J
⚠	R289,R290 FUSIBLE RESISTOR	RFA1/4PS101J
	R299 CARBON FILM RESISTOR	RD1/4PM100J
⚠	R301,R302 CARBON FILM RESISTOR	RD1/4PMF222J
⚠	R308 CARBON FILM RESISTOR	RD1/4PMF101J
	R311-R315 CARBON FILM RESISTOR	RD1/4PM□□□J
	R317-R327 CARBON FILM RESISTOR	RD1/4PM□□□J
⚠	R330 CARBON FILM RESISTOR	RD1/4PMF010J
⚠	R401,R402 CARBON FILM RESISTOR	RD1/4PMFL101J
⚠	R403,R404 METAL OXIDE RESISTOR	RS1LMF331J
⚠	R407,R408 CARBON FILM RESISTOR	RD1/4PMFL100J
	R501-R506 CARBON FILM RESISTOR	RD1/2PM□□□J
⚠	R508 CARBON FILM RESISTOR	RD1/4PMF010J
⚠	R509,R510 METAL OXIDE RESISTOR	RS1LMF□□□J
	R517-R520 CARBONFILM RESISTOR	RD1/2PM221J
	R731,R732 CARBON FILM RESISTOR	RD1/4PM103J
	VR201,VR202 VR	ACP1045
	VR701 VARIABLE(100K-20AX2)	ACT1062
	Other resistors	RD1/8PM□□□J
OTHERS		
	CN4 CONNECTOR(15P)	KPE15
	CN9 JUMPER CONNECTOR	KPC8
	RY301-RY303 RELAY	ASR1038
	PIN JACK(4P)	AKB1007
	PIN JACK(6P)	AKB1008
	PIN JACK(6P)	AKB1024
	SPEAKER TERMINAL 8-P	AKE1011

2.3 SCHEMATIC DIAGRAM

* Marks are difference between two assemblies.

	A-339/KU,HE,SD	A-339/HEWZ, A-339-S/HEWZ
AF COMPLEX ASS'Y	AWZ3483	AWZ3482
L103-L106	VACANT(OPEN)	LAU221K
C103,C104	CCCSL221J50	CCCSL330J50
C115,C116	VACANT(OPEN)	CQMA392K50
C125,C126	VACANT(OPEN)	CCCSL101J50
C127,C128	VACANT(OPEN)	CCDSL221J50
C129	VACANT(OPEN)	CKPYX103N25
C139,C140	VACANT(OPEN)	CCCSL330J50
C141	VACANT(OPEN)	CKCYF103Z50
C143,C144	CQMA472K50	VACANT(OPEN)
C213,C214	CCCSL120K500	CCCSL060D500
C215,C216	CCCSL120K500	VACANT(SHORT)
C239-C242	VACANT(OPEN)	CQMXA472J100
C244	VACANT(OPEN)	CKDYX104M25
C245,C246	VACANT(OPEN)	CKCYB331K50
C251-C254	CCCSL330K500	CCCSL680K500
C301,C302	CEANP2R2M50	CEAS2R2M50
C401,C402	CFTXA104J50	CFTXA473J50
C403,C404	CFTXA104J50	VACANT(SHORT)
C703-C708	VACANT(OPEN)	CCCSL271J50
C711,C712	VACANT(OPEN)	CCCSL271J50
C715,C716	VACANT(OPEN)	CCCSL271J50
C719,C720	CKCYB331K50	CCCSL271J50
C725	CKCYF103Z50	CCDSL221J50
C727,C728	VACANT(OPEN)	CCCSL221J50
R103	VACANT(OPEN)	RD1/8PM4R7J
R105,R106	RDR1/6PU100J	RD1/8PM332J
R719,R720	VACANT(SHORT)	RD1/8PM331J
R724	VACANT(OPEN)	RD1/8PM100J
HEAD PHONE ASS'Y	Non supply	Non supply
C801,C802	VACANT(OPEN)	CKCYB392K50
OTHERS		
R1, R2	VACANT(OPEN)	RD1/4PM100J

1.RESISTORS :

Indicated in Ω, 1/8, 1/6, 1/4W,, ±5% tolerance unless otherwise noted k ; kΩ, M ; MΩ, (F) ; ±1%, (G) ; ±2%, (K) ; ±10%, (M) ; ±20% tolerance.

2.CAPACITORS :

Indicated in capacity (μF)/voltage(V) unless otherwise noted p ; pF. Indication without voltage is 50V except electrolytic capacitor.

3.VOLTAGE, CURRENT :

[V] ; Signal voltage at 40W+40W, 8Ω/50W+50W, 4Ω output(1kHz).

[ ] ; DC voltage (V) at no input signal.
Value in ( ) is DC voltage at rated power.

⇦mA ; DC current at no input signal.

4.OTHERS :

⊘ ; Adjusting point

The ⚠ mark found on some component parts indicates the inportance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

※ marked capacitors and resistors have parts numbers.

This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

5.SWITCHES : (The underline indicates the switch position)

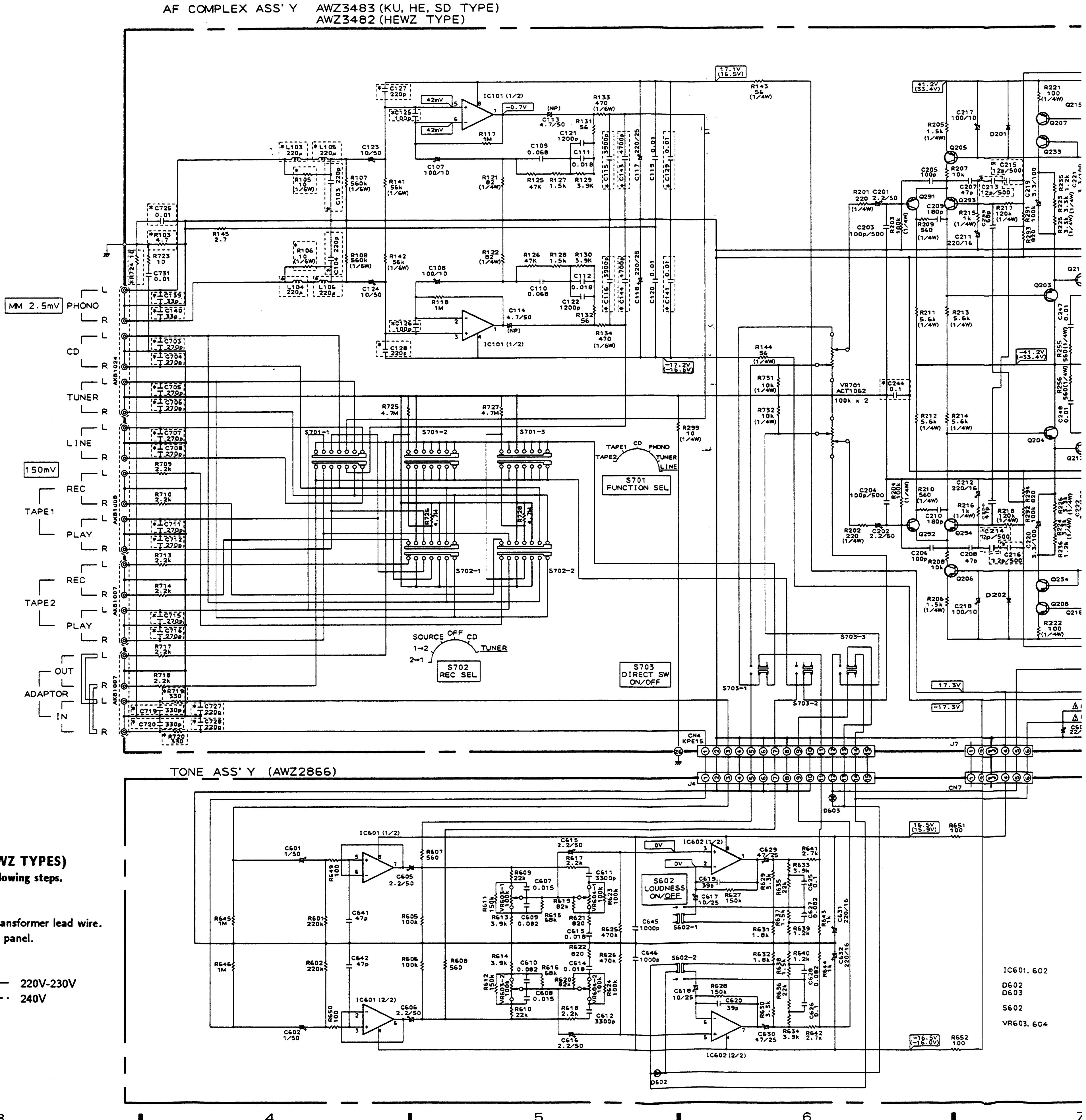
S602 : LOUDNESS(ON-OFF)
S701 : FUNCTION SEL(TAPE2-TAPE1-CD-PHONO-TUNER-LINE)
S702 : REC SEL(2→1-1→2-SOURCE-OFF-CD-TUNER)
S703 : SULLES(ON-OFF)
S801-1 : SPEAKERS-A(ON-OFF)
S801-2 : SPEAKERS-A(ON-OFF)
S501 : POWER SW(ON-OFF)

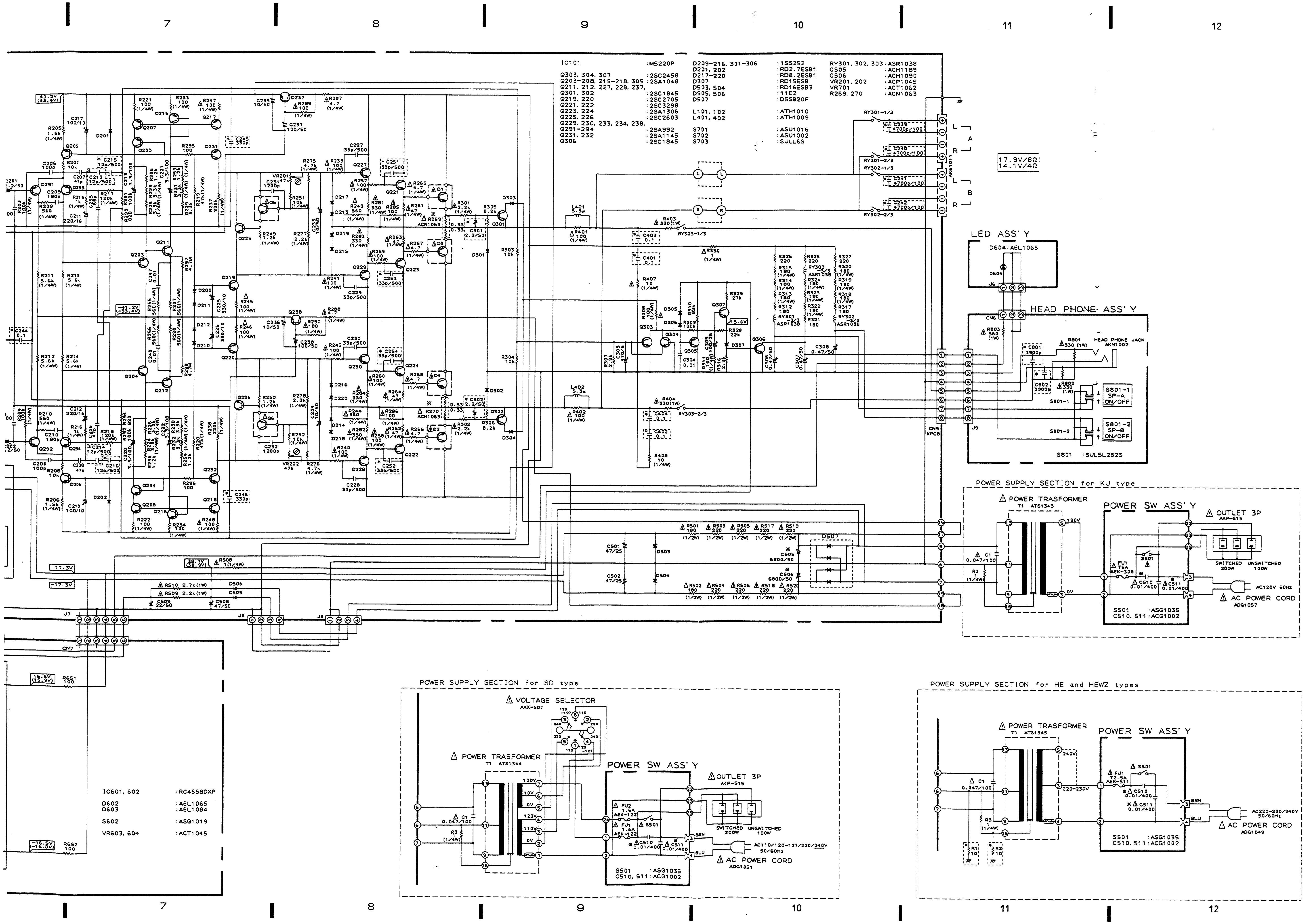
Line Voltage Selection (HE and HEWZ TYPES)

Line voltage can be changed with the following steps.

1. Disconnect the AC power cord.
2. Remove the top cover.
3. Change the connection of the power transformer lead wire.
4. Stick the line voltage label on the rear panel.

Parts No.	Description		
AXX-193	220V label	———	220V-230V
AXX-192	240V label	- - - - -	240V


AF COMPLEX ASS'Y AWZ3483 (KU, HE, SD TYPE)
AWZ3482 (HEWZ TYPE)
TONE ASS'Y (AWZ2866)
MM 2.5mV
PHONO
CD
TUNER
LINE
150mV
TAPE1
REC
PLAY
TAPE2
OUT
ADAPTOR
IN
L
R
IC101 (1/2)
S701 FUNCTION SEL
S702 REC SEL
S703 DIRECT SW ON/OFF
SOURCE OFF CD
TUNER
VR701
IC601 (1/2)
IC601 (2/2)
IC602 (1/2)
IC602 (2/2)
S602 LOUDNESS ON/OFF
CN4
J4
J7
CN7
D602
D603
IC601, 602
D602
D603
S602
VR603, 604
A
B
C
D


7
8
9
10
11
12
A
B
C
D
17.9V/8Ω
14.1V/4Ω
LED ASS'Y
D604 : AEL1065
HEAD PHONE ASS'Y
HEAD PHONE JACK AKN1002
S801-1 SP-A ON/OFF
S801-2 SP-B ON/OFF
S801 : SULSL2B2S
POWER SUPPLY SECTION for KU type
Δ POWER TRASFORMER T1 ATS1343
POWER SW ASS'Y
Δ OUTLET 3P AKP-515
SWITCHED 200W
UNSWITCHED 100W
AC120V 60Hz
Δ AC POWER CORD ADG1057
S501 : ASG1035
C510, 511 : ACG1002
POWER SUPPLY SECTION for SD type
Δ VOLTAGE SELECTOR AKX-507
Δ POWER TRASFORMER T1 ATS1344
POWER SW ASS'Y
Δ OUTLET 3P AKP-515
SWITCHED 200W
UNSWITCHED 100W
AC110/120-127/220/240V 50/60Hz
Δ AC POWER CORD ADG1051
S501 : ASG1035
C510, 511 : ACG1002
POWER SUPPLY SECTION for HE and HEWZ types
Δ POWER TRASFORMER T1 ATS1345
POWER SW ASS'Y
AC220-230/240V 50/60Hz
Δ AC POWER CORD ADG1049
S501 : ASG1035
C510, 511 : ACG1002

IC101	:M5220P
Q303, 304, 307	:2SC2458
Q203–208, 215–218, 305	:2SA1048
Q211, 212, 227, 228, 237,	
Q301, 302	:2SC1845
Q219, 220	:2SC2705
Q221, 222	:2SC3298
Q223, 224	:2SA1306
Q225, 226	:2SC2603
Q229, 230, 233, 234, 238,	
Q291–294	:2SA992
Q231, 232	:2SA1145
Q306	:2SC1845

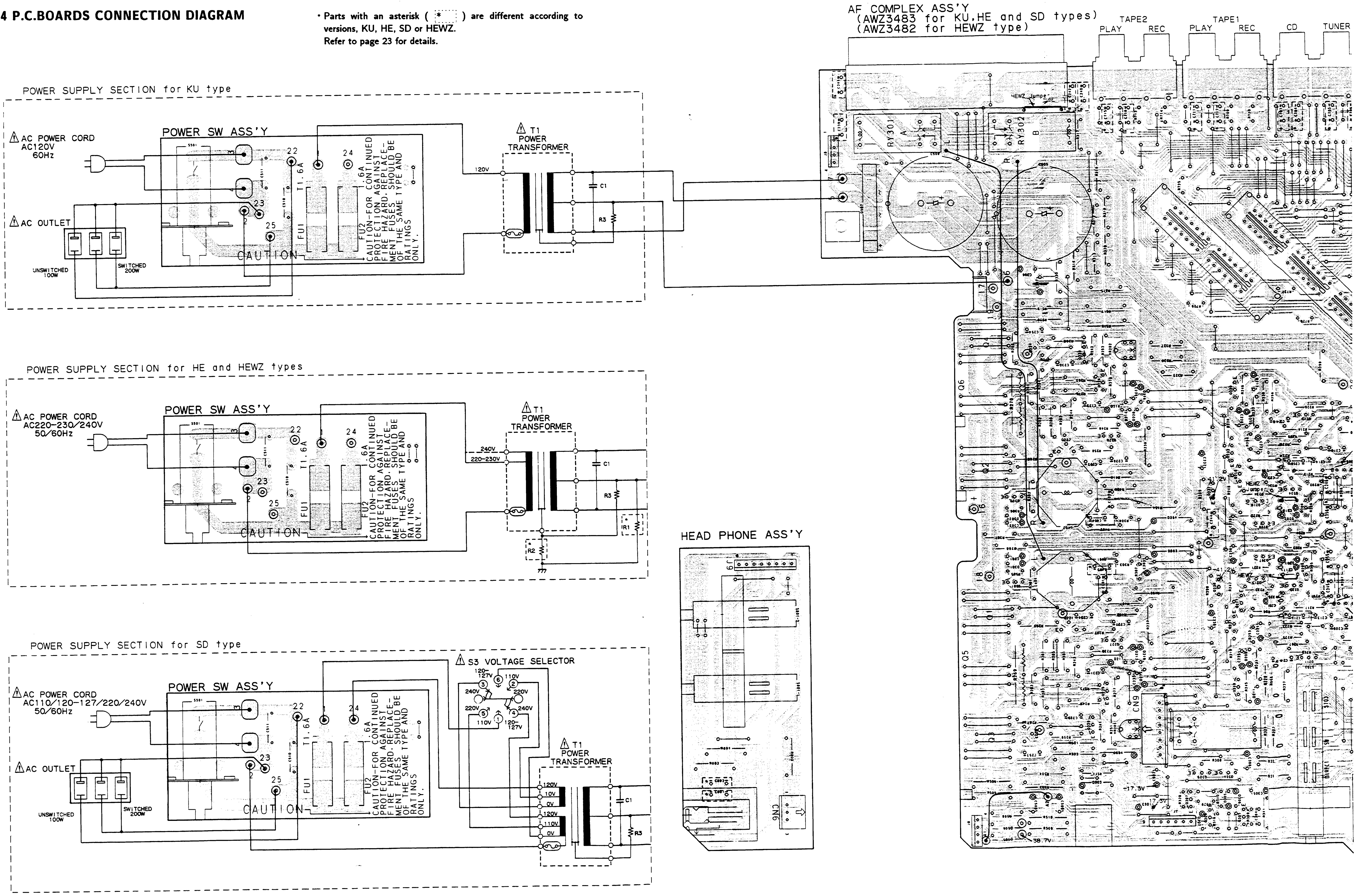
D209–216, 301–306	:1SS252
D201, 202	:RD2.7ESB1
D217–220	:RD8.2ESB1
D307	:RD15ESB
D503, 504	:RD16ESB3
D505, 506	:11E2
D507	:DSSB20F
L101, 102	:ATH1010
L401, 402	:ATH1009
S701	:ASU1016
S702	:ASU1002
S703	:SULL6S

RY301, 302, 303	:ASR1038
C505	:ACH1189
C506	:ACH1090
VR201, 202	:ACP1045
VR701	:ACT1062
R269, 270	:ACN1063

IC601, 602	:RC4558DXP
D602	:AEL1065
D603	:AEL1084
S602	:ASG1019
VR603, 604	:ACT1045

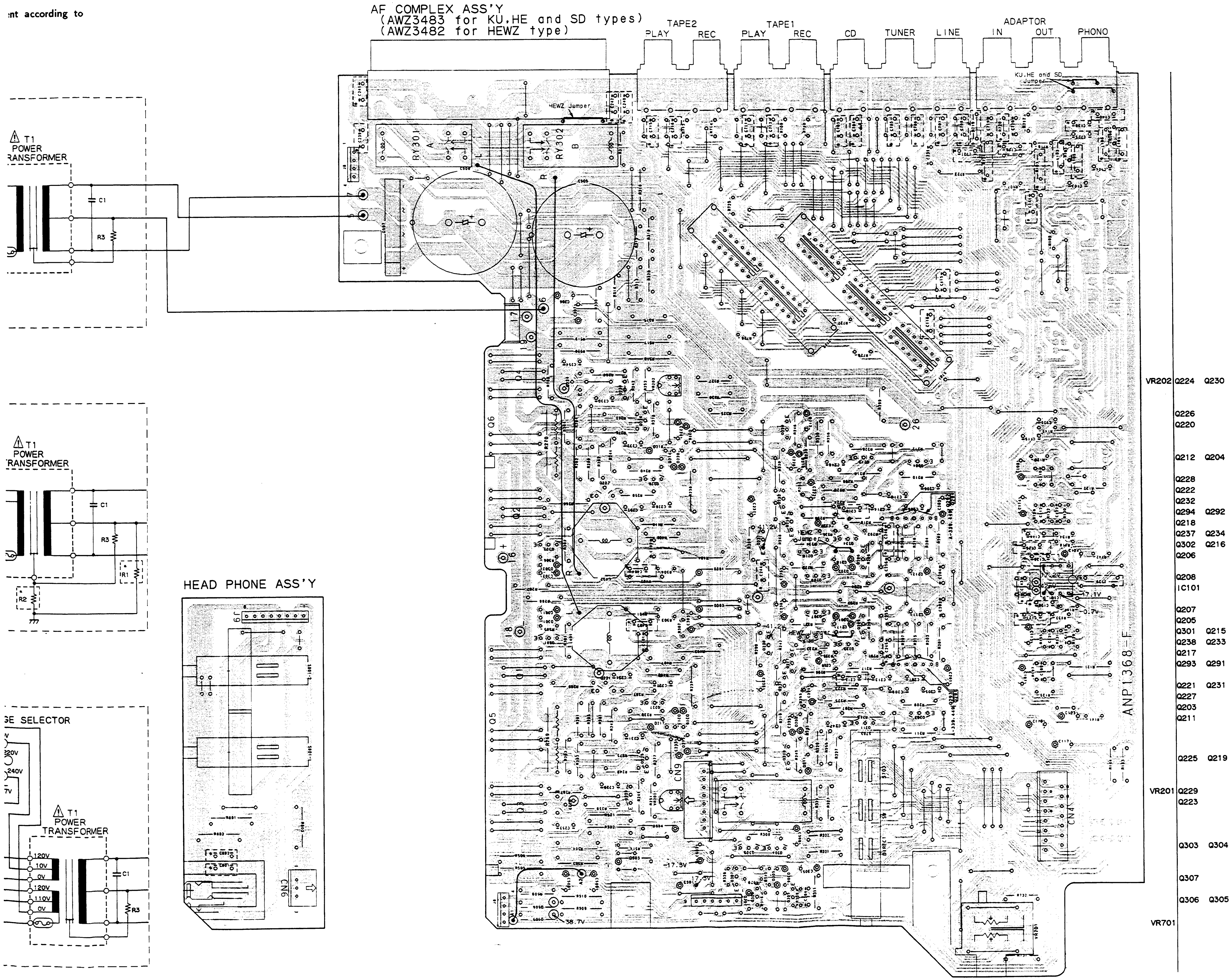
2.4 P.C.BOARDS CONNECTION DIAGRAM

- Parts with an asterisk (*) are different according to versions, KU, HE, SD or HEWZ. Refer to page 23 for details.



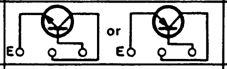
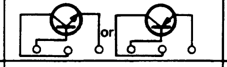
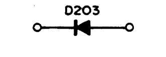
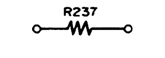
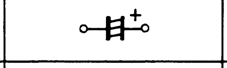
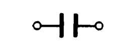
1
2
3
4
5
6
A
B
C
D
POWER SUPPLY SECTION for KU type
AC POWER CORD
AC120V
60Hz
AC OUTLET
UNSWITCHED 100W
SWITCHED 200W
POWER SW ASS'Y
22
23
24
25
T1.6A
FU1
FU2
6A
CAUTION-FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACEMENT FUSES SHOULD BE OF THE SAME TYPE AND RATINGS ONLY.
CAUTION
T1
POWER TRANSFORMER
120V
C1
R3
POWER SUPPLY SECTION for HE and HEWZ types
AC POWER CORD
AC220-230/240V
50/60Hz
240V
220-230V
R1
R2
POWER SUPPLY SECTION for SD type
AC POWER CORD
AC110/120-127/220/240V
50/60Hz
S3 VOLTAGE SELECTOR
120-127V
110V
240V
220V
0V
10V
AF COMPLEX ASS'Y
(AWZ3483 for KU,HE and SD types)
(AWZ3482 for HEWZ type)
TAPE2
PLAY
REC
TAPE1
PLAY
REC
CD
TUNER
RY301
RY302
HEWZ Jumper
Q6
Q5
Q2
CN9
-17.3V
17.3V
38.7V
HEAD PHONE ASS'Y
CN6

nt according to


3
4
5
6
7
8
9
A
B
C
D
AF COMPLEX ASS'Y
(AWZ3483 for KU,HE and SD types)
(AWZ3482 for HEWZ type)
TAPE2
PLAY
REC
TAPE1
PLAY
REC
CD
TUNER
LINE
ADAPTOR
IN
OUT
PHONO
KU,HE and SD Jumper
HEWZ Jumper
RY301 A
RY302 B
T1 POWER TRANSFORMER
C1
R3
R1
R2
GE SELECTOR
220V
240V
120V
10V
0V
110V
HEAD PHONE ASS'Y
J6
CN6
CN9
CN4
HEWZ Jumper
ANP1368-F
-17.3V
38.7V
17.1V
Q6
Q5
Q2
VR202 Q224 Q230
Q226
Q220
Q212 Q204
Q228
Q222
Q232
Q294 Q292
Q218
Q237 Q234
Q302 Q216
Q206
Q208
IC101
Q207
Q205
Q301 Q215
Q238 Q233
Q217
Q293 Q291
Q221 Q231
Q227
Q203
Q211
Q225 Q219
VR201 Q229
Q223
Q303 Q304
Q307
Q306 Q305
VR701

NOTE

1. This P.C.B connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wirng symbols listed in the following Table.

P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
E Q504		Transistor
Q215		Radiator type transistor
D203		Diode
R237		Resistor
C513		Capacitor (Polarity)
C518		Capacitor (Non-polarity)

Others

P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

3. The capactor terminal marked with ◎ (double circles) shows negative terminal.
4. The diode terminal marked with ◎ (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

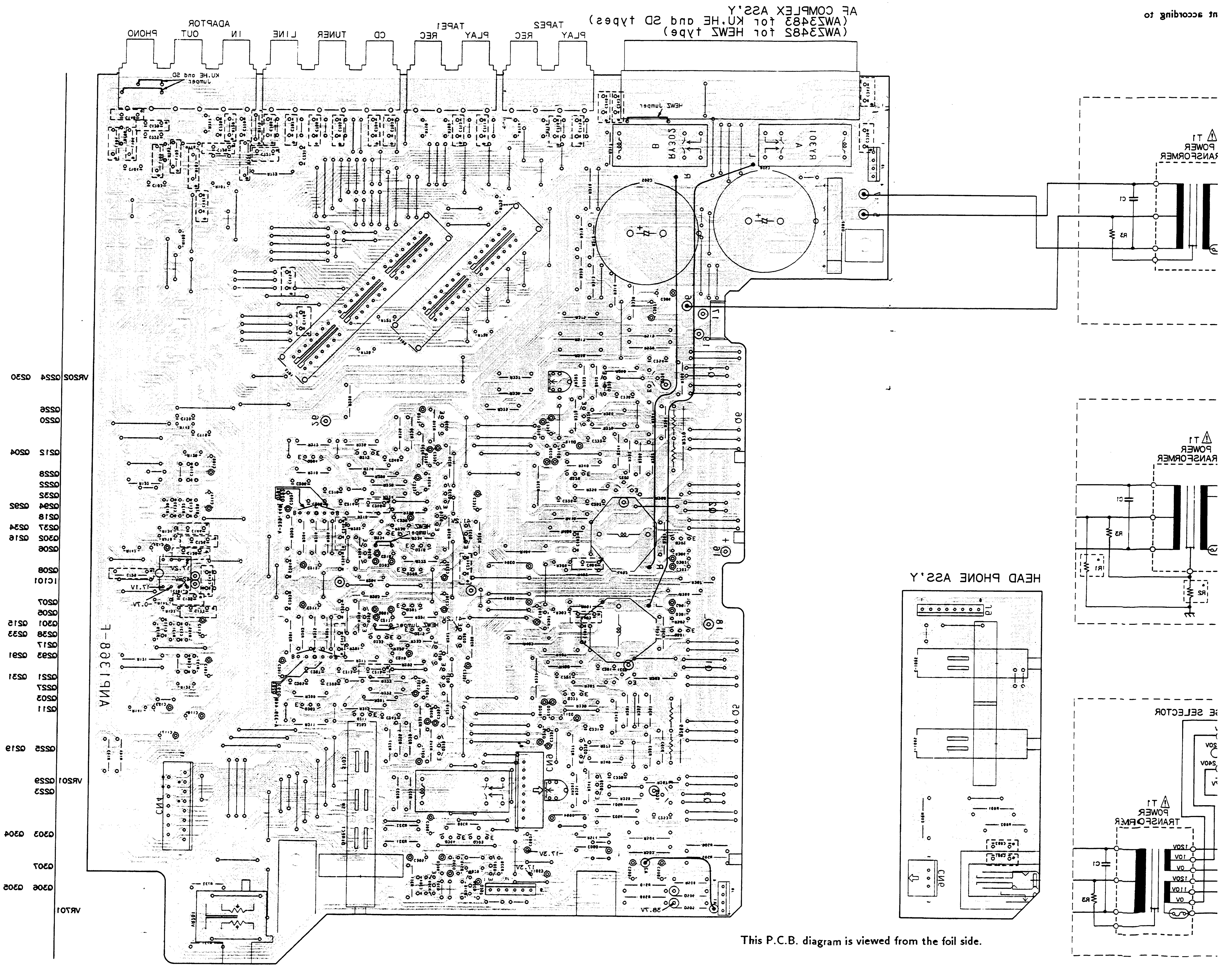
nt according to

A

B

C

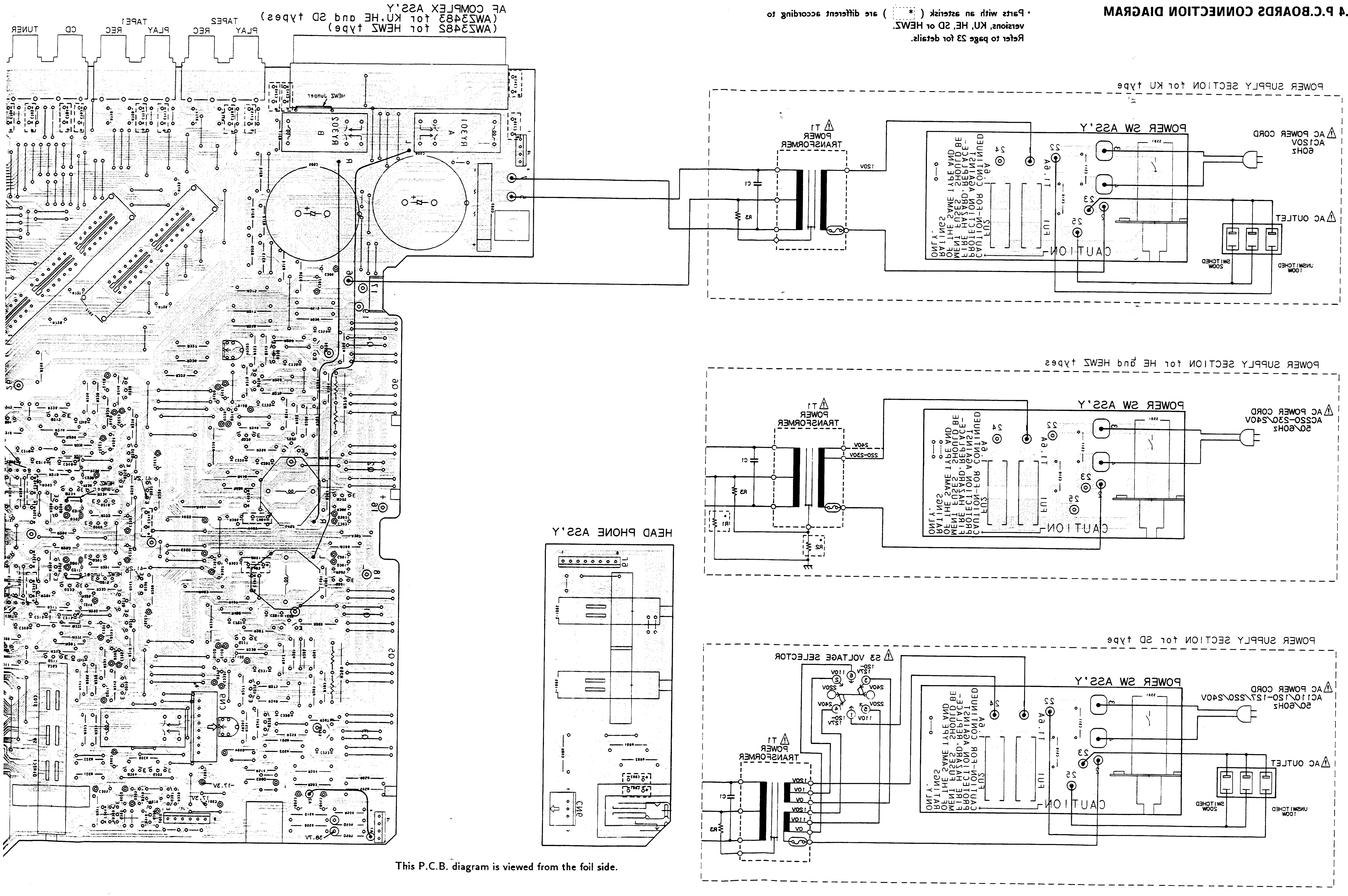
D


AF COMPLEX ASS'Y
(AWZ3483 for KU,HE and SD types)
(AWZ3482 for HEWZ type)
PHONO
ADAPTOR
OUT
IN
LINE
TUNER
CD
TAPE1
PLAY
REC
TAPE2
PLAY
REC
KU,HE and SD Jumper
HEWZ Jumper
RY301
RY302
CN4
CN6
HEAD PHONE ASS'Y
T1 POWER TRANSFORMER
SELECTOR
VR202 Q224 Q230
Q226
Q220
Q212 Q204
Q228
Q222
Q232
Q294 Q292
Q218
Q237 Q234
Q302 Q216
Q206
Q208
IC101
Q207
Q205
Q301 Q215
Q238 Q233
Q217
Q293 Q291
Q221 Q231
Q227
Q203
Q211
Q225 Q219
VR201 Q229
Q223
Q303 Q304
Q307
Q306 Q305
VR701

This P.C.B. diagram is viewed from the foil side.

2.4 P.C.BOARDS CONNECTION DIAGRAM

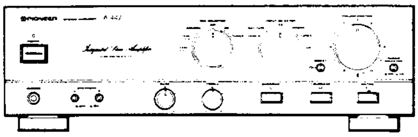
• Parts with an asterisk (*) are different according to versions, KU, HE, SD or HEWZ. Refer to page 23 for details.


AF COMPLEX ASS'Y
(AWZ3483 for KU,HE and SD types)
(AWZ3482 for HEWZ type)
TUNER
CD
TAPE1 REC PLAY
TAPE2 REC PLAY
HEWZ Jumper
RY01 A
RY02 B
HEAD PHONE ASS'Y
CN6
POWER SUPPLY SECTION for KU type
POWER SUPPLY SECTION for HE and HEWZ types
POWER SUPPLY SECTION for SD type
POWER SW ASS'Y
AC POWER CORD AC120V 60Hz
AC POWER CORD AC220-230/240V 50/60Hz
AC POWER CORD AC110/120-127/220/240V 50/60Hz
AC OUTLET
SWITCHED 200W
UNSWITCHED 100W
T1 POWER TRANSFORMER
S3 VOLTAGE SELECTOR
120V
240V
220-230V
110V
120-127V
220V
0V
C1
R1
R2
R3
FU1 T1.6A
FU2
CAUTION-FOR CONTINUED PROTECTION AGAINST RISK OF FIRE HAZARDS, REPLACEMENT FUSES SHOULD BE OF THE SAME TYPE AND RATINGS ONLY.
22
23
24
25

This P.C.B. diagram is viewed from the foil side.

PIONEER
The future of sound and vision.

Service Manual


The illustration shows model A-447.
L'illustration motre le modèle A-447.

ORDER NO.
ARP2043

STEREO AMPLIFIER

A-447
A-447-S
A-337
A-337-S

MODEL A-447, A-447-S, A-337 AND A-337-S HAVE FOLLOWING VERSIONS:

Type	Applicable model				Power requirement	Export destination
	A-447	A-447-S	A-337	A-337-S		
HE	○	—	○	—	AC220V, 240V (switchable) *	European continent
HEWZ	○	○	○	○	AC220V, 240V (switchable) *	West Germany
SD	○	—	○	—	AC110V, 120–127V, 220V, 240V (switchable)	Kingdom of Saudi Arabia and General market
KUC	—	—	○	—	AC120V only	U.S.A. and Canada
KC	○	—	—	—	AC120V only	Canada

* Change the primary wiring.

- This manual is applicable to the A-447/HE, HEWZ, A-447-S/HEWZ, A-337/HE, HEWZ and A-337-S/HEWZ types.
- As to the A-447/HEWZ and A-447-S/HEWZ types, refer to pages 34 – 36.
- The A-447-S is the same as the A-447 except for color.
- As to the A-337/HEWZ and A-337-S/HEWZ types, refer to pages 37 – 39.
- The A-337-S is the same as the A-337 except for color.
- Ce manuel pour le service comprend les explications de réglage en français.
- Este manual de servicio trata del método ajuste escrito en español.

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1. SAFETY INFORMATION 2
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6. FOR A-337/HEWZ AND A-337-S/HEWZ TYPES 38
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PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS SERVICE INC. P.O. Box 1760, Long Beach, California 90801 U.S.A.
PIONEER ELECTRONICS OF CANADA, INC. 505 Cochrane Drive, Markham, Ontario L3R 8E3 Canada
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SEV MAY. 1990 Printed in Jap

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).
When servicing or handling circuit boards and other components which contain lead in in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

1. SAFETY INFORMATION

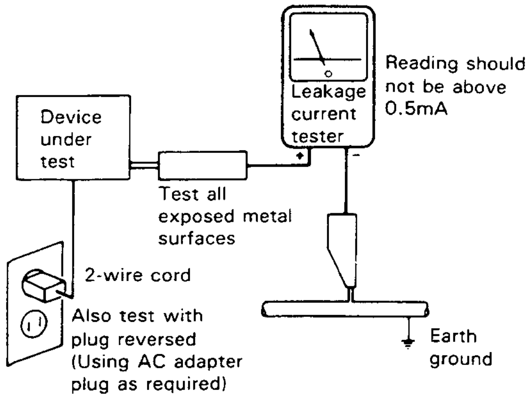
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.


Leakage current tester
Reading should not be above 0.5mA
Device under test
Test all exposed metal surfaces
2-wire cord
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

2. EXPLODED VIEWS, PACKING AND PARTS LIST

NOTES:

- *Parts without part number cannot be supplied.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

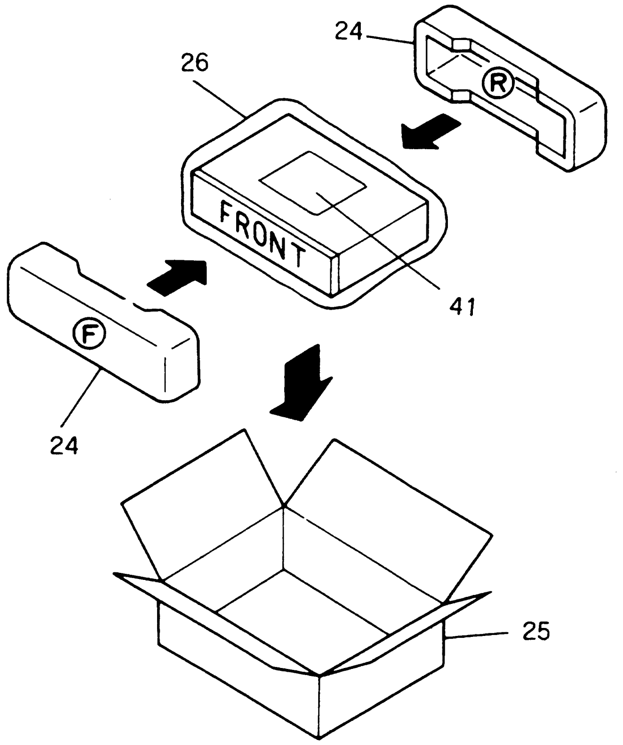
2.1 PARTS LIST OF A-447/HE

Mark	No.	Description	Parts No.
	1	ROTARY KNOB S (PLS)	AAB1155
	2	ROTARY KNOB L (PLS)	AAB1160
	3	ROTARY KNOB R (PLS)	AAB1162
	4	ROTARY KNOB M (PLS)	AAB1164
	5	PUSH KNOB C	AAD1366
	6	KNOB (POWER)	AAD1535
	7	PUSH KNOB	AAD1536
	8	PUSH KNOB C	AAD1803
	9	NAME PLATE (METAL)	AAM1029
	10	SCREW	ABA-298
	11	SCREW (STEEL)	ABA1009
	12	SCREW (STEEL)	ABA1011
	13	SCREW (STEEL)	ABA1016
	14	SCREW (STEEL)	ABA1048
	15	SCREW (STEEL)	ABA1050
	16	SCREW 3X14	ABA1082
	17	SPRING B	ABH-052
	18	SPRING B	ABH1034
	19	NUT	ABN-065
⚠	20	AC POWER CORD	ADG1049
	21	RIVET	AEC-441
	22	STRAIN RELIEF	AEC-882
	23	SHEET	AEE1014
	24	STYROL PROTECTOR	AHA1335
	25	PAKING CASE	AHD1861
	26	COVER	AHG1016
	27	TERMINAL SCREW	
	28	JUMPER PLUG	AKM1019
	29	PANEL BASE (PLS)	AMB1651
	30	INDICATING LENS	AMR1160
	31	INSULATOR ASS'Y	AMR2140
	32	ARM	AMR2142
	33	CHASSIS	
	34	FRONT PANEL	ANB1395
	35	REAR PANEL	
	36	METAL BONNET	AZN1799
	37	BOTTOM PLATE	
	38	P.C.B HOLDER	
	39	HEAT SINK	
	40	ROD	ANR-879
	41	OPERATING INSTRUCTIONS	ARE1162
	42	SCREW	BBT30P060FZK
	43	NUTS	NK90FZB
	44	SCREW	VMZ30P060FCU
⚠	45	C1 CAPACITOR	CQMXA104J100
⚠	46	FU1 FUSE(T2.5A)	AEK-403
⚠	47	Q1 TRANSISTOR	2SC3281
⚠	48	Q2 TRANSISTOR	2SC3281
⚠	49	Q3 TRANSISTOR	2SA1302
⚠	50	Q4 TRANSISTOR	2SA1302
⚠	51	Q5 TRANSISTOR	2SC4137
⚠	52	Q6 TRANSISTOR	2SC4137
	53	S1 SWITCH	ASU1035
	54	S2 SWITCH	ASU1036
⚠	55	T1 POWER TRANSFORMER	ATS1277
	56	TONE ASS'Y	AWZ2858
	57	AF COMPLEX ASS'Y	AWZ2861
	58	LED ASS'Y	
	59	SHIELD ASS'Y	
	60	HEADPHONE ASS'Y	
	61	POWER SW ASS'Y	
	62	GND SCREW	ABA1047
	63	BINDER	
	64	R1, R2 RESISTORS (HEWZ type only)	RD1/4PM100J

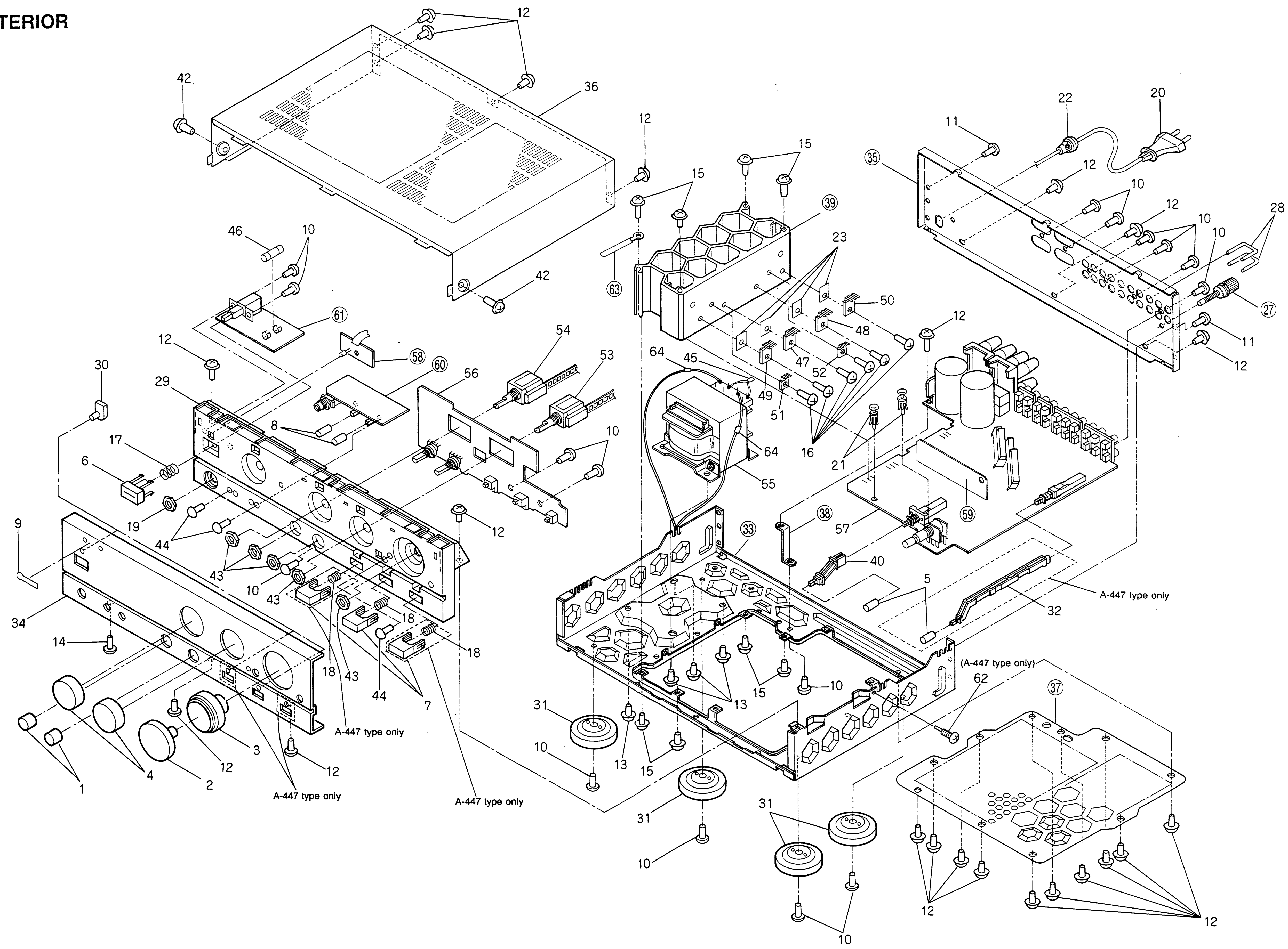
2.2 PARTS LIST OF A-337/HE

Mark	No.	Description	Parts No.
	1	ROTARY KNOB S (PLS)	AAB1155
	2	ROTARY KNOB L (PLS)	AAB1160
	3	ROTARY KNOB R (PLS)	AAB1162
	4	ROTARY KNOB M (PLS)	AAB1166
	5	PUSH KNOB C	AAD1366
	6	KNOB (POWER)	AAD1535
	7	PUSH KNOB	AAD1536
	8	PUSH KNOB C	AAD1803
	9	NAME PLATE (METAL)	AAM1029
	10	SCREW	ABA-298
	11	SCREW (STEEL)	ABA1009
	12	SCREW (STEEL)	ABA1011
	13	SCREW (STEEL)	ABA1016
	14	SCREW (STEEL)	ABA1048
	15	SCREW (STEEL)	ABA1050
	16	SCREW 3X14	ABA1082
	17	SPRING B	ABH-052
	18	SPRING B	ABH1034
	19	NUT	ABN-065
⚠	20	AC POWER CORD	ADG1049
	21	RIVET	AEC-441
	22	STRAIN RELIEF	AEC-882
	23	SHEET	AEE1014
	24	STYROL PROTECTOR	AHA1335
	25	PACKING CASE	AHD1863
	26	COVER SHEET	AHG1016
	27	TERMINAL SCREW	
	28	JUMPER PLUG	AKM1019
	29	PANEL BASE (PLS)	AMB1651
	30	INDICATING LENS	AMR1160
	31	INSULATOR ASS'Y	AMR2140
	32	--------	
	33	CHASSIS	
	34	FRONT PANEL	ANB1397
	35	REAR PANEL	
	36	METAL BONNET	AZN1799
	37	BOTTOM PLATE	
	38	P.C.B HOLDER	
	39	HEAT SINK	
	40	ROD	ANR-879
	41	OPERATING INSTRUCTIONS	ARE1162
	42	SCREW	BBT30P060FZK
	43	NUTS	NK90FZB
	44	SCREW	VMZ30P060FCU
⚠	45	C1 CAPACITOR	CQMXA473J100
⚠	46	FU1 FUSE (T1.6A)	AEK-405
⚠	47	Q1 TRANSISTOR	2SC3181N
⚠	48	Q2 TRANSISTOR	2SC3181N
⚠	49	Q3 TRANSISTOR	2SA1264N
⚠	50	Q4 TRANSISTOR	2SA1264N
⚠	51	Q5 TRANSISTOR	2SC4137
⚠	52	Q6 TRANSISTOR	2SC4137
	53	S1 SWITCH	ASU1035
	54	S2 SWITCH	ASU1036
⚠	55	T1 POWER TRANSFORMER	ATS1278
	56	TONE ASS'Y	AWZ2866
	57	AF COMPLEX ASS'Y	AWZ2867
	58	LED ASS'Y	
	59	SHIELD ASS'Y	
	60	HEADPHONE ASS'Y	
	61	POWER SW ASS'Y	
	62	-----------------	
	63	BINDER	
	64	R1, R2 RESISTORS (HEWZ type only)	RD1/4PM100J

2.3 PACKING

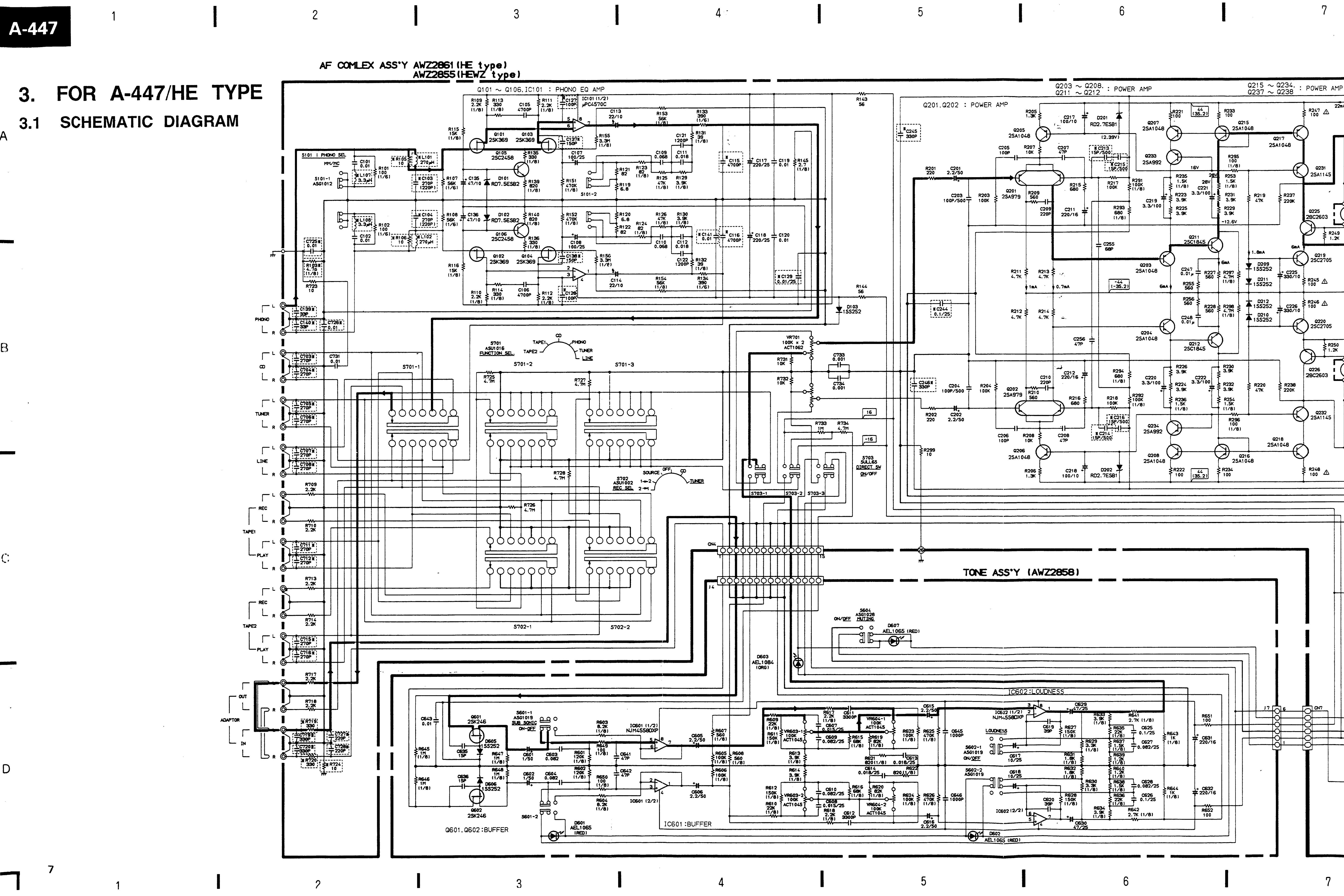


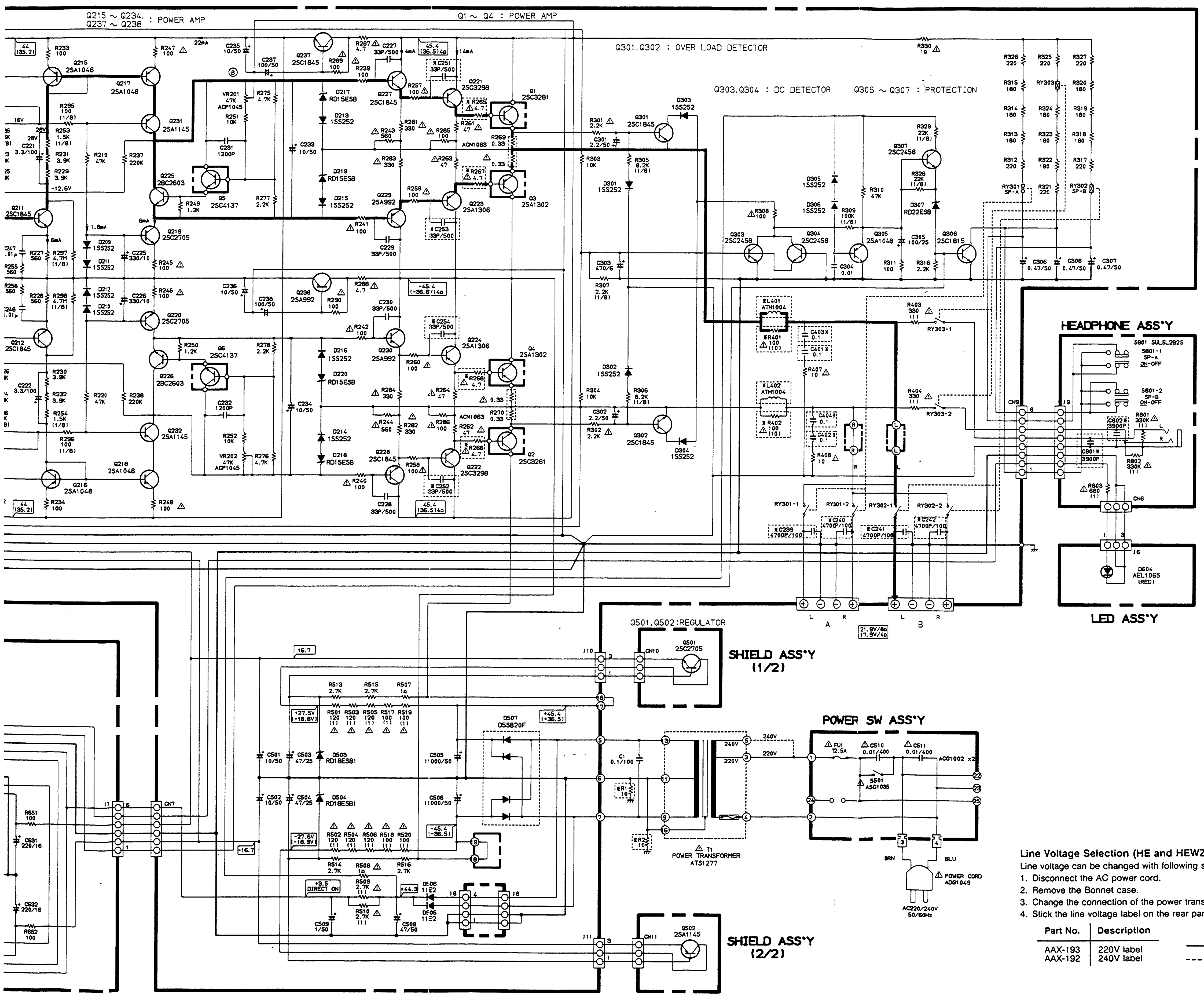
2.4 EXTERIOR


A-447 type only
(A-447 type only)
A-447 type only
A-447 type only
A-447 type only

3. FOR A-447/HE TYPE

3.1 SCHEMATIC DIAGRAM


1
2
3
4
5
6
7
A
B
C
D
AF COMLEX ASS'Y AWZ2861(HE type)
AWZ2855(HEWZ type)
Q101 ~ Q106,IC101 : PHONO EQ AMP
IC101 (1/2) μPC4570C
S101 : PHONO SEL
MM/MC
S101-1 ASG1012
S101-2
Q201,Q202 : POWER AMP
Q203 ~ Q208, Q211 ~ Q212 : POWER AMP
Q215 ~ Q234, Q237 ~ Q238 : POWER AMP
PHONO
CD
TUNER
LINE
REC
PLAY
TAPE1
TAPE2
ADAPTOR
OUT
IN
L
R
S701 ASU1016 FUNCTION SEL
TAPE1
TAPE2
CD
PHONO
TUNER
LINE
S701-1
S701-2
S701-3
S702 ASU1002 REC SEL
SOURCE
OFF
TUNER
S702-1
S702-2
VR701 100K x 2 ACT1062
S703 SULL65 DIRECT SW ON/OFF
S703-1
S703-2
S703-3
CN4
J4
TONE ASS'Y (AWZ2858)
S604 ASG1026 MUTING
ON/OFF
D607 AEL1065 (RED)
D603 AEL1084 (ORG)
IC602:LOUDNESS
IC602 (1/2) NJM4558DXP
IC602 (2/2)
LOUDNESS
S602-1 ASG1019 ON/OFF
S602-2 ASG1019
S601-1 ASG1019 SUB SONIC ON-OFF
S601-2
IC601 (1/2) NJM4558DXP
IC601 (2/2)
IC601:BUFFER
Q601 2SK246
Q602 2SK246
Q601,Q602:BUFFER
D601 AEL1065 (RED)
D602 AEL1065 (RED)
J7
CN7



Line Voltage Selection (HE and HEWZ types)

Line voltage can be changed with following steps.

1. Disconnect the AC power cord.
2. Remove the Bonnet case.
3. Change the connection of the power transformer lead wire.
4. Stick the line voltage label on the rear panel.

Part No.	Description
AAX-193	220V label
AAX-192	240V label

——— 220V
----- 240V

- This circuit diagram is based on the HE version.
- Parts with an asterisk (*) are different from this prepared for the HEWZ version.
- Refer to the comparison list.

* Marks are difference between two assemblies.

	A-447/HE	A-447/HEWZ, A-447-S/HEWZ
AF COMPLEX ASS'Y	AWZ2861	AWZ2855
L101, L102	VACANT (OPEN)	ATH1010
L107, L108	VACANT (JAMPER WIRE)	LAU3R3K
L401, L402	ATH1004	ATH1009
C103, C104	CCCSL221J50	CCCSL271J50
C115, C116	CQMA472K50	CQMA392K50
C127, C128	VACANT (OPEN)	CCDSL101J50
C129	VACANT (OPEN)	CKPYX103N25
C137, C138	VACANT (OPEN)	CCCSL151J50
C139, C140	VACANT (OPEN)	CCCSL330J50
C141	VACANT (OPEN)	CKCYF103Z50
C213, C214	CCCSL150K500	CCCSL080D500
C215, C216	CCCSL150K500	VACANT (JAMPER WIRE)
C239–C242	VACANT (OPEN)	CQMXA472J100
C244	VACANT (OPEN)	CKDYX104M25
C245, C246	VACANT (OPEN)	CKCYB331K50
C251–C254	CCCSL330K500	CCCSL680K500
C401, C402	CFTXA104J50	CFTXA473J50
C403, C404	CFTXA104J50	VACANT (JAMPER WIRE)
C703–C708	VACANT (OPEN)	CCCSL271J50
C711, C712	VACANT (OPEN)	CCCSL271J50
C715, C716	VACANT (OPEN)	CCCSL271J50
C719, C720	CKCYB331K50	CCCSL271J50
C725	CKCYF103Z50	CCDSL221J50
C726	VACANT (OPEN)	CKCYF103Z50
C727, C728	VACANT (JUMPER WIRE)	CCCSL221J50
R103	VACANT (OPEN)	RD1/8PM4R7J
R105, R106	RDR1/6PU100J	RD1/8PM472J
R265–R268	RFA1/4PS4R7J	RFA1/4PS470J
R401, R402	RD1/4PMFL100J	RD1/4PMFL101J
R719, R720	VACANT (OPEN)	RD1/8PM331J
R724	VACANT (OPEN)	RD1/8PM100J
HEAD PHONE ASS'Y	AWZ2862	AWZ2857
C801, C802	VACANT (OPEN)	CKCYB392K50
OTHERS		
R1, R2	VACANT (OPEN)	RD1/4PM100J

1. **RESISTORS:**
   Indicated in Ω, 1/8, 1/4W, ±5% tolerance unless otherwise noted K; kΩ, M; MΩ, (F); ±1%, (G); ±2%, (K); ±10%, (M); ±20% tolerance.
2. **CAPACITORS:**
   Indicated in capacity (µF) / voltage (V) unless otherwise noted p; pF. Indication without voltage is 50V except electrolytic capacitor.
3. **VOLTAGE CURRENT:**

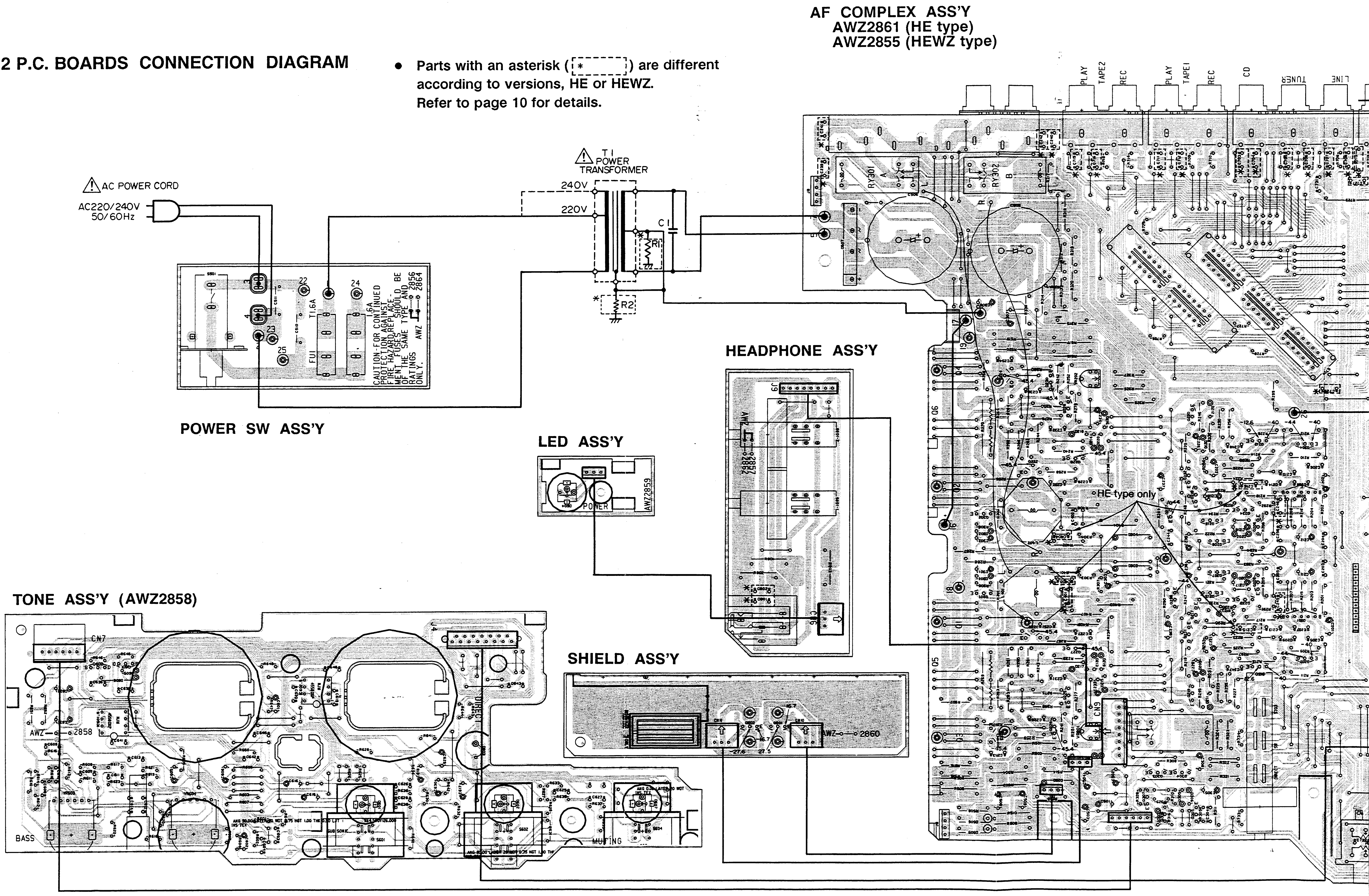
V	;	Signal voltage at (60W + 60W/8Ω, 80W + 80W/4Ω) output (1kHz).
	;	DC voltage (V) at no input signal. Value in ( ) is DC voltage at rated power.
mA	;	DC current at no input signal.
mV	;	Signal voltage at FM 400Hz ± 75Hz DEV.

4. **OTHERS**
   - →; Signal route.
   - ⊘ ; Adjusting point.
   - The ⚠ mark found on some component parts indicates the importane of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
   - ※ marked capacitor and resistor have parts number.
   - This is the basic schematic diagram, but the actual circuit way vary due to improvements in design.
5. **SWITCHES (The underline indicates the switch position)**

S601 : SUBSONIC (ON-OFF)
S602 : LOUDNESS (ON-OFF)
S604 : MUTING (ON-OFF)
S101 : PHONO SEL (MM-MC)
S701 : FUNCTION SEL (TAPE 2 – TAPE 1 – CD – PHONO – TUNER – LINE)
S702 : REC SEL (2→1 – 1→2 – SOURCE – OFF – CD – TUNER)
S703 : DIRECT SW (ON – OFF)
S801-1 : SPEAKERS-A (ON-OFF)
S801-2 : SPEAKERS-B (ON-OFF)
S501 : POWER SW (ON – OFF)

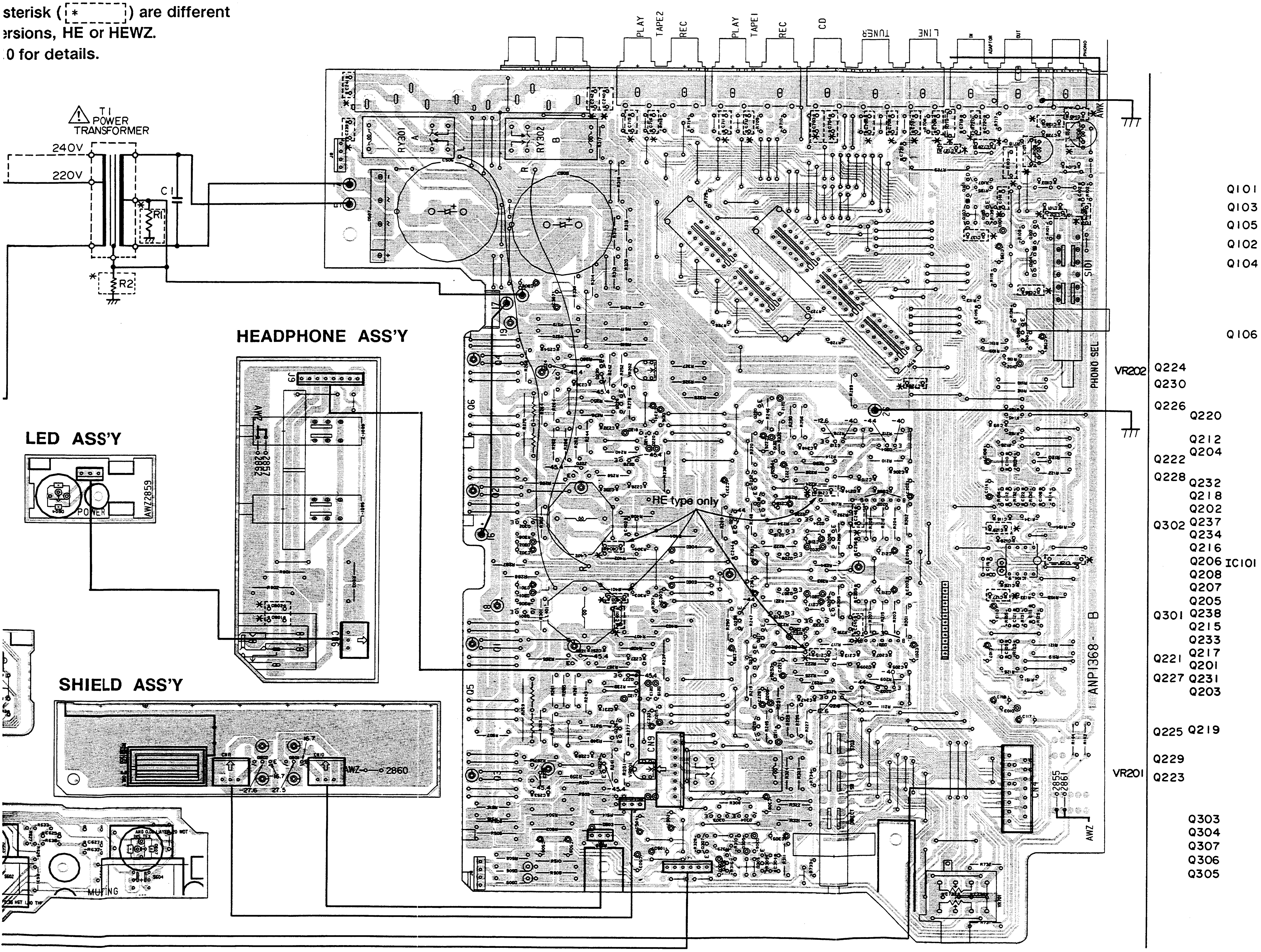
3.2 P.C. BOARDS CONNECTION DIAGRAM

- Parts with an asterisk (*) are different according to versions, HE or HEWZ. Refer to page 10 for details.

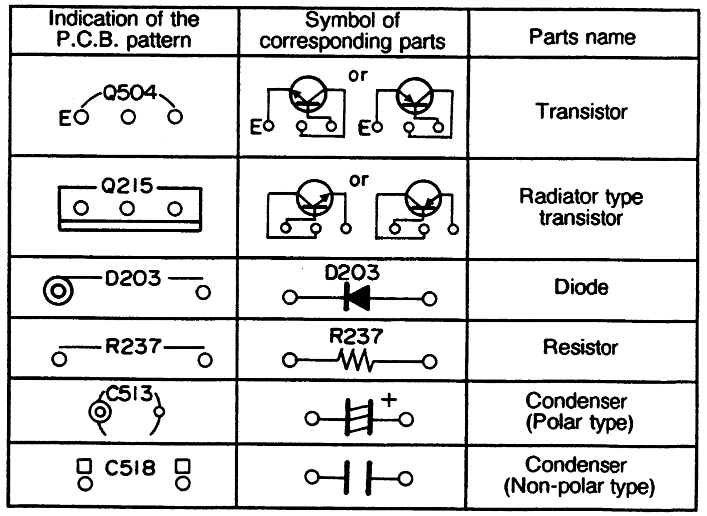

1
2
3
4
5
6
A
B
C
D
AF COMPLEX ASS'Y
AWZ2861 (HE type)
AWZ2855 (HEWZ type)
PLAY
TAPE2
REC
PLAY
TAPE1
REC
CD
TUNER
LINE
RY301
RY302
AC POWER CORD
AC220/240V
50/60Hz
T1
POWER
TRANSFORMER
240V
220V
C1
R1
R2
POWER SW ASS'Y
S501
22
23
24
25
T1.6A
FU1
1.6A
CAUTION-FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,REPLACEMENT FUSES SHOULD BE OF THE SAME TYPE AND RATINGS ONLY.
AWZ 2856
2864
HEADPHONE ASS'Y
J9
AWZ 2857
2862
LED ASS'Y
POWER
AWZ2859
HE type only
CN9
TONE ASS'Y (AWZ2858)
CN7
AWZ 2858
BASS
SUB SONIC
S601
S602
S604
MUTING
SHIELD ASS'Y
AWZ 2860
-27.6
27.5
46.7
-40
-44
45.4

AF COMPLEX ASS'Y
AWZ2861 (HE type)
AWZ2855 (HEWZ type)

sterisk (*) are different
ersions, HE or HEWZ.
0 for details.


PLAY
TAPE2
REC
PLAY
TAPE1
REC
CD
TUNER
LINE
IN
ADAPTOR
OUT
PHONO
T1
POWER
TRANSFORMER
240V
220V
C1
R1
R2
RY301
RY302
HEADPHONE ASS'Y
J9
AWZ 2862
LED ASS'Y
POWER
AWZ2859
SHIELD ASS'Y
AWZ 2860
MUTING
HE type only
CN9
CN4
AWZ 2855 2861
S101
PHONO SEL
ANP1368-B
VR202
VR201
IC101
Q101
Q103
Q105
Q102
Q104
Q106
Q224
Q230
Q226
Q220
Q212
Q222
Q204
Q228
Q232
Q218
Q202
Q302
Q237
Q234
Q216
Q206
Q208
Q207
Q205
Q301
Q238
Q215
Q233
Q221
Q217
Q201
Q227
Q231
Q203
Q225
Q219
Q229
Q223
Q303
Q304
Q307
Q306
Q305

1. This P.C.B connection diagram is seen from the parts mount side.
2. The parts mounted on to the P.C.B can be replaced with those shown in the following correspondence table with wiring marks.



Indication of the P.C.B. pattern	Symbol of corresponding parts	Parts name
Q504 E○ ○ ○	E○ ○ ○ or E○ ○ ○	Transistor
Q215 ○ ○ ○	○ ○ ○ or ○ ○ ○	Radiator type transistor
◎ D203 ○	D203 ○—▶|—○	Diode
○ R237 ○	R237 ○—\/\/\/—○	Resistor
◎ C513 ○	○—|[+—○	Condenser (Polar type)
□○ C518 □○	○—||—○	Condenser (Non-polar type)

Others

Wiring mark on the P.C.B pattern diagram	Parts list
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or semi-fixed resistor

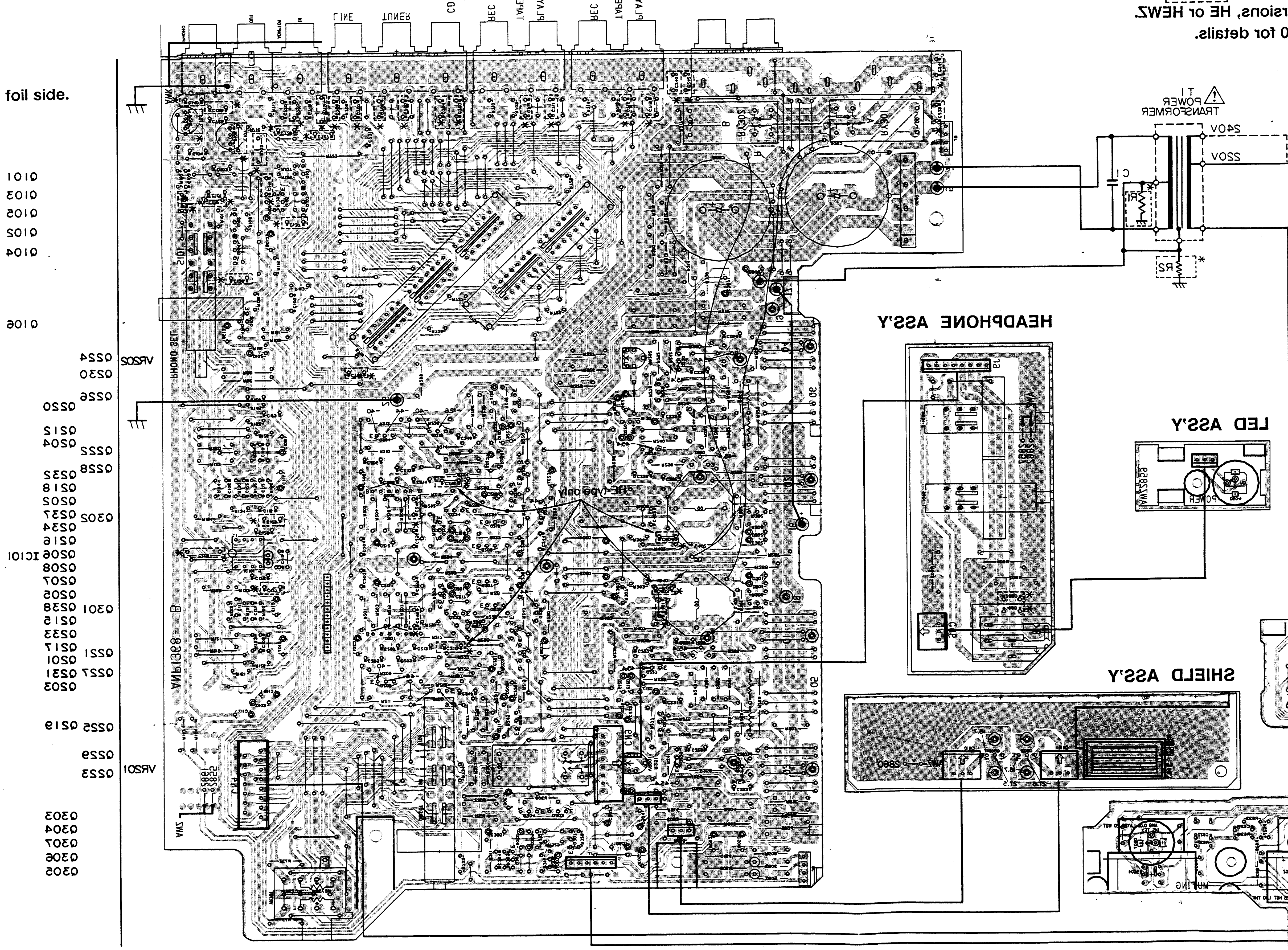
3. The condenser terminal marked with double circles (◎) represents (–) terminal.
4. The diode terminal marked with double circles (◎) represents the cathode side.
5. The transistor terminal marked with "E" represents an emitter.

AF COMPLEX ASS'Y
AWZ2861 (HE type)
AWZ2855 (HEWZ type)

sterisk (*) are different
rsions, HE or HEWZ.
0 for details.

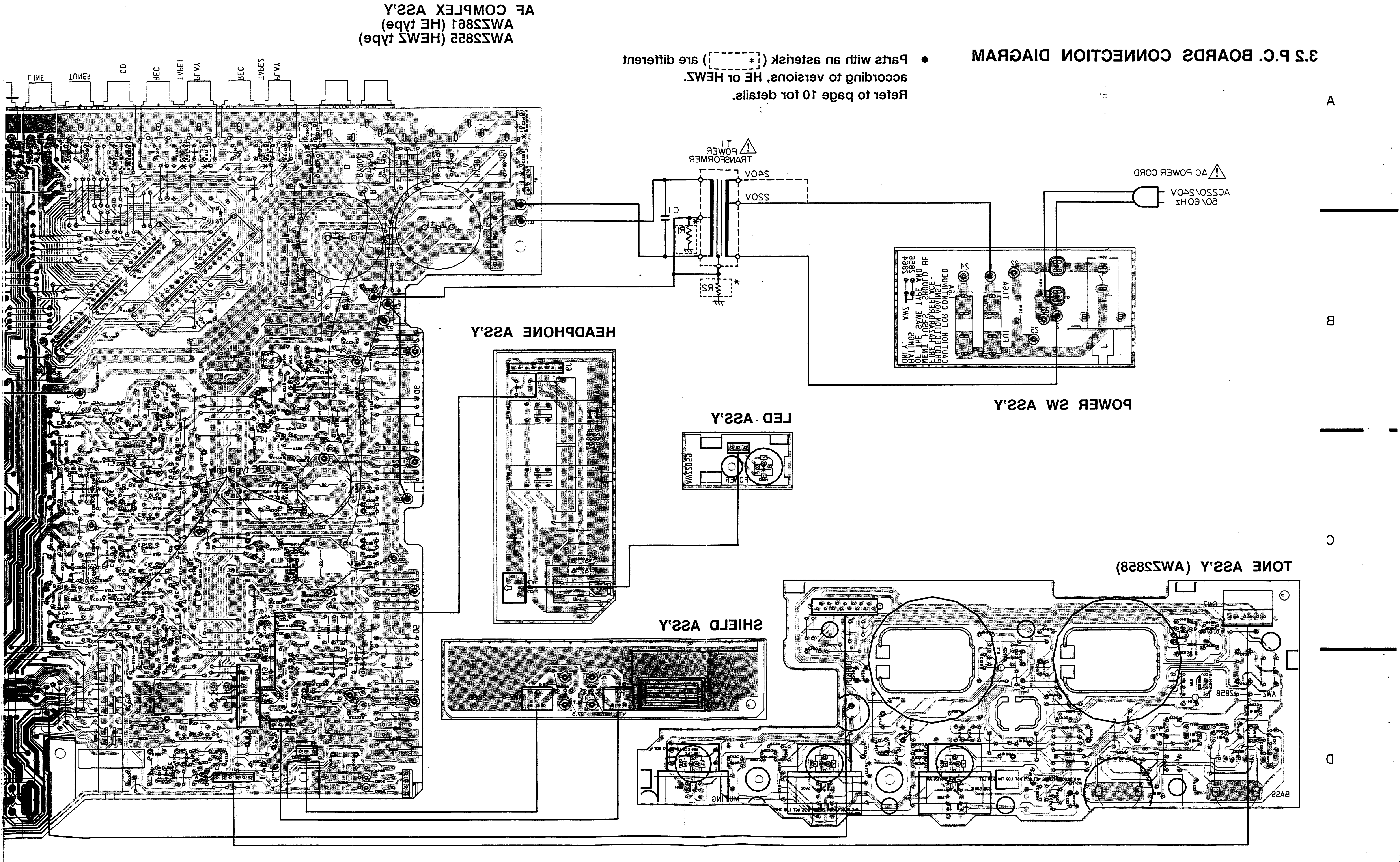
- **View from soldering side**

This P.C.B. connection diagram is viewed from the foil side.


PHONO
MD
MD/TUNER
LINE
TUNER
CD
REC
TAPE1
PLAY
REC
TAPE2
PLAY
T1
POWER TRANSFORMER
240V
220V
C1
R1
R2
HEADPHONE ASS'Y
LED ASS'Y
POWER
AWZ2859
SHIELD ASS'Y
AWZ2860
MUTING
HE type only
PHONO SEL
VR202
VR201
AMP1368-B
AWA
Q101
Q103
Q105
Q102
Q104
Q106
Q224
Q230
Q226
Q220
Q212
Q204
Q222
Q228
Q232
Q218
Q202
Q237
Q234
Q216
Q206 IC101
Q208
Q207
Q205
Q238
Q215
Q233
Q217
Q201
Q231
Q203
Q302
Q301
Q221
Q227
Q225 Q219
Q229
Q223
Q303
Q304
Q307
Q306
Q305
A
B
C
D

3.2 P.C. BOARDS CONNECTION DIAGRAM

- Parts with an asterisk (*) are different according to versions, HE or HEWZ. Refer to page 10 for details.


AF COMPLEX ASS'Y
AWZ2861 (HE type)
AWZ2855 (HEWZ type)
LINE
TUNER
CD
REC
TAPE1
PLAY
REC
TAPE2
PLAY
T1 POWER TRANSFORMER
240V
220V
C1
R1
R2
AC POWER CORD
AC220/240V
50/60Hz
POWER SW ASS'Y
HEADPHONE ASS'Y
LED ASS'Y
POWER
SHIELD ASS'Y
TONE ASS'Y (AWZ2858)
BASS
MUTING
A
B
C
D
1
2
3
4
5
6

3.3 P.C.B's PARTS LIST

NOTES:

- *Parts without part number cannot be supplied.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω 56×10^1 561........................RD1/4PS $\boxed{5}\boxed{6}\boxed{1}$ J
47kΩ 47×10^3 473........................RD1/4PS $\boxed{4}\boxed{7}\boxed{3}$ J
0.5Ω 0R5..RN2H $\boxed{0}\boxed{R}\boxed{5}$ K
1Ω 010..RS1P $\boxed{0}\boxed{1}\boxed{0}$ K

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ 562×10^1 5621......................RN1/4SR $\boxed{5}\boxed{6}\boxed{2}\boxed{1}$ F

LED ASS'Y

SEMICONDUCTOR

Mark	No.	Description	Parts No.
	D604	LED(RED)	AEL1065

SHIELD ASS'Y

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	Q501	TRANSISTOR	2SC2705
	Q502	TRANSISTOR	2SA1145

OTHERS

Mark	No.	Description	Parts No.
	CN10,CN11	JUMPER CONNECTOR 3-P	KPC3

HEADPHONE ASS'Y

RESISTORS

Mark	No.	Description	Parts No.
⚠	R801,R802	METAL OXIDE RESISTOR	RS1PMF331J
⚠	R803	METAL OXIDE RESISTOR	RS1LMF681J

SWITCH

Mark	No.	Description	Parts No.
	S801	PUSH SWITCH	SUL5L2B2S

OTHERS

Mark	No.	Description	Parts No.
	CN6	JUMPER CONNECTOR 3-P	KPC3
		JACK	AKN1002

POWER SW ASS'Y

CAPACITORS

Mark	No.	Description	Parts No.
⚠	C510,C511	CKA (0.01/AC400V)	ACG1002

SWITCH

Mark	No.	Description	Parts No.
⚠	S501	PUSH SWITCH	ASG1035

TONE ASS'Y (AWZ2858)

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC601,IC602	IC	NJM4558DXP
	Q601,Q602	N-FET	2SK246
	D601,D602	LED(RED)	AEL1065
	D603	LED	AEL1084
	D605,D606	DIODE	1SS252
	D607	LED(RED)	AEL1065

CAPACITORS

Mark	No.	Description	Parts No.
	C601,C602	ELECTR.CAPACITOR	CEAS010M50
	C603,C604	AUDIO FILM CAPACITOR	CFTXA823J50
	C605,C606	ELECTR. CAPACITOR	CEAS2R2M50
	C607,C608	CERAMIC CAPACITOR	CKDYX153M25
	C609,C610	CERAMIC CAPACITOR	CKDYX823M25
	C611,C612	CERAMIC CAPACITOR	CKCYB332K50
	C613,C614	CERAMIC CAPACITOR	CKDYX183M25
	C615,C616	ELECTR. CAPACITOR	CEAS2R2M50
	C617,C618	ELECTR. CAPACITOR	CEAS100M25
	C619,C620	CERAMIC CAPACITOR	CCDSL390J50
	C625,C626	CERAMIC CAPACITOR	CKDYX104M25
	C627,C628	CERAMIC CAPACITOR	CKDYX823M25
	C629,C630	ELECTR. CAPACITOR	CEAS470M25
	C631,C632	ELECTR. CAPACITOR	CEAS221M16
	C635,C636	CERAMIC CAPACITOR	CCDSL150J50
	C641,C642	CERAMIC CAPACITOR	CCCSL470J50
	C643	CERAMIC CAPACITOR	CKCYF103Z50
	C645,C646	CERAMIC CAPACITOR	CKCYB102K50

RESISTORS

Mark	No.	Description	Parts No.
	VR603,VR604	VARIABLE(100K-20AX2)	ACT1045
	R651,R652	CARBON FILM RESISTOR	RD1/4PM101J
		OTHER RESISTORS	RD1/8PM☐☐☐J

SWITCHES

Mark	No.	Description	Parts No.
	S601,S602	PUSH SWITCH	ASG1019
	S604	PUSH SWITCH	ASG1028

AF COMPLEX ASS'Y (AWZ2861)

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC101	IC	UPC4570C
	Q101-Q104	N-FET	2SK369
	Q105,Q106	TRANSISTOR	2SC2458
	Q201,Q202	TRANSISTOR	2SA979
	Q203-Q208	TRANSISTOR	2SA1048

Mark	No.	Description	Parts No.
	Q211,Q212	TRANSISTOR	2SC1845
	Q215-Q218	TRANSISTOR	2SA1048
	Q219,Q220	TRANSISTOR	2SC2705
	Q221,Q222	TRANSISTOR	2SC3298
	Q223,Q224	TRANSISTOR	2SA1306
	Q225,Q226	TRANSISTOR	2SC2603
	Q227,Q228	TRANSISTOR	2SC1845
	Q229,Q230	TRANSISTOR	2SA992
	Q231,Q232	TRANSISTOR	2SA1145
	Q233,Q234	TRANSISTOR	2SA992
	Q237	TRANSISTOR	2SC1845
	Q238	TRANSISTOR	2SA992
	Q301,Q302	TRANSISTOR	2SC1845
	Q303,Q304	TRANSISTOR	2SC2458
	Q305	TRANSISTOR	2SA1048
	Q306	TRANSISTOR	2SC1815
	Q307	TRANSISTOR	2SC2458
	D101,D102	ZENER DIODE	RD7.5ESB2
	D103	DIODE	1SS252
	D201,D202	ZENER DIODE	RD2.7ESB1
	D209-D216	DIODE	1SS252
	D217-D220	ZENER DIODE	RD15ESB
	D301-D306	DIODE	1SS252
	D307	ZENER DIODE	RD22ESB
	D503,D504	ZENER DIODE	RD18ESB1
	D505,D506	DIODE	11E2
	D507	DIODE	D5SB20F

CAPACITORS

Mark	No.	Description	Parts No.
	C101,C102	AUDIO FILM CAPACITOR	CFTXA103J50
	C103,C104	CERAMIC CAPACITOR	CCCSL221J50
	C105,C106	CERAMIC CAPACITOR	CKCYB472K50
	C107,C108	ELECTR. CAPACITOR	CEXA101M25
	C109,C110	AUDIO FILM CAPACITOR	CFTXA683J50
	C111,C112	AUDIO FILM CAPACITOR	CFTXA183J50
	C113,C114	ELECTR. CAPACITOR	CEANP220M10
	C115,C116	MYLOR FILM CAPACITOR	CQMA472K50
	C117,C118	ELECTR. CAPACITOR	CEAS221M25
	C119,C120	CERAMIC CAPACITOR	CKCYF103Z50
	C121,C122	MYLOR FILM CAPACITOR	CQMA122J50
	C135,C136	ELECTR. CAPACITOR	CEAS470M10
	C201,C202	ELECTR. CAPACITOR	CEEA2R2M50
	C203,C204	MICA CAPACITOR	CCCSL101K500
	C205,C206	CERAMIC CAPACITOR	CCCSL101J50
	C207,C208	CERAMIC CAPACITOR	CCCSL470J50
	C209,C210	CERAMIC CAPACITOR	CCCSL221J50
	C211,C212	ELECTR. CAPACITOR	CEEA221M16
	C213-C216	CERAMIC CAPACITOR	CCCSL150K500
	C217,C218	ELECTR. CAPACITOR	CEAS101M10
	C219-C222	ELECTR. CAPACITOR	CEAS3R3M100
	C225,C226	ELECTR. CAPACITOR	CEAS331M10
	C227-C230	CERAMIC CAPACITOR	CCCSL330K500
	C231,C232	CERAMIC CAPACITOR	CKCYB122K50
	C233-C236	ELECTR. CAPACITOR	CEAS100M50
	C237,C238	ELECTR. CAPACITOR	CEAS101M50
	C247,C248	AUDIO FILM CAPACITOR	CFTXA103J50
	C251-C254	CERAMIC CAPACITOR	CCCSL330K500
	C255	CERAMIC CAPACITOR	CCCSL680J50
	C256	CERAMIC CAPACITOR	CCDSL470J50
	C301,C302	ELECTR. CAPACITOR	CEAS2R2M50
	C303	ELECTR. CAPACITOR	CEAS471M6
	C304	CERAMIC CAPACITOR	CKCYF103Z50
	C305	ELECTR. CAPACITOR	CEAS101M25
	C306-C308	ELECTR. CAPACITOR	CEASR47M50
	C401-C404	AUDIO FILM CAPACITOR	CFTXA104J50
	C501,C502	ELECTR. CAPACITOR	CEAS100M50
	C503,C504	ELECTR. CAPACITOR	CEAS470M25
	C505,C506	ELECTR. CAPACITOR (16000/5V)	ACH1078
	C508	ELECTR. CAPACITOR	CEAS470M50
	C509	ELECTR. CAPACITOR	CEAS010M50
	C719,C720	CERAMIC CAPACITOR	CKCYB331K50
	C725	CERAMIC CAPACITOR	CKCYF103Z50
	C731	CERAMIC CAPACITOR	CKCYF103Z50
	C733,C734	CERAMIC CAPACITOR	CKDYF102Z50

COILS & FILTERS

Mark	No.	Description	Parts No.
	L401,L402	COIL	ATH1004

RESISTORS

Mark	No.	Description	Parts No.
	VR201,VR202	SEMI-FIXED(47K)	ACP1045
	VR701	VARIABLE(100K-20AX2)	ACT1062
	R101,R102	CARBON FILM RESISTOR	RDR1/6PU101J
	R105-R108	CARBON FILM RESISTOR	RDR1/6PU□□□J
	R119-R122	CARBON FILM RESISTOR	RDR1/4PM□□□J
	R133,R134	CARBON FILM RESISTOR	RDR1/6PU391J
	R143,R144	CARBON FILM RESISTOR	RD1/4PM560J
	R201-R204	CARBON FILM RESISTOR	RDR1/4PM□□□J
	R205-R214	CARBON FILM RESISTOR	RD1/4PM□□□J
	R215-R218	CARBON FILM RESISTOR	RDR1/4PM□□□J
	R219-R234	CARBON FILM RESISTOR	RD1/4PM□□□J
	R237,R238	CARBON FILM RESISTOR	RDR1/4PM224J
⚠	R239-R242	FUSIBLE RESISTOR	RFA1/4PS101J
⚠	R243,R244	CARBON FILM RESISTOR	RD1/4PMF561J
⚠	R245-R248	FUSIBLE RESISTOR	RFA1/4PS101J
	R249-R252	CARBON FILM RESISTOR	RD1/4PM□□□J
	R255,R256	CARBON FILM RESISTOR	RD1/4PM561J
⚠	R257-R260	FUSIBLE RESISTOR	RFA1/4PS101J
⚠	R261-R264	FUSIBLE RESISTOR	RFA1/4PS470J
⚠	R265-R268	FUSIBLE RESISTOR	RFA1/4PS4R7J

Mark	No.	Description	Parts No.
⚠	R269,R270	RESISTOR (0.33, 5W)	ACN1063
	R275-R278	CARBON FILM RESISTOR	RD1/4PM□□□J
⚠	R281-R284	FUSIBLE RESISTOR	RFA1/4PS331J
⚠	R285,R286	FUSIBLE RESISTOR	RFA1/4PS101J
⚠	R287,R288	CARBON FILM RESISTOR	RD1/4PMF4R7J
⚠	R289,R290	FUSIBLE RESISTOR	RFA1/4PS101J
	R299	CARBON FILM RESISTOR	RD1/4PM100J
⚠	R301,R302	CARBON FILM RESISTOR	RD1/4PMF222J
⚠	R308	CARBON FILM RESISTOR	RD1/4PMF101J
	R311-R315	CARBON FILM RESISTOR	RD1/4PM□□□J
	R317-R327	CARBON FILM RESISTOR	RD1/4PM□□□J
⚠	R330	CARBON FILM RESISTOR	RD1/4PMF010J
⚠	R401,R402	CARBON FILM RESISTOR	RD1/4PMFL100J
⚠	R403,R404	METAL OXIDE RESISTOR	RS1LMF331J
⚠	R407,R408	CARBON FILM RESISTOR	RD1/4PMFL100J
⚠	R501,R502	METAL OXIDE RESISTOR	RS1PMF121J
⚠	R503,R504	METAL OXIDE RESISTOR	RS1LMF121J
⚠	R505,R506	METAL OXIDE RESISTOR	RS1PMF121J
⚠	R507,R508	CARBON FILM RESISTOR	RD1/4PMF010J
⚠	R509,R510	METAL OXIDE RESISTOR	RS1LMF272J
	R513-R516	CARBON FILM RESISTOR	RD1/4PM272J
⚠	R517-R520	METAL OXIDE RESISTOR	RS1PMF101J
	R731,R732	CARBON FILM RESISTOR	RD1/4PM103J
		OTHER RESISTORS	RD1/8PM□□□J
SWITCHES			
	S101	PUSH SWITCH	ASG1012
	S701	SWITCH	ASU1016
	S702	SWITCH	ASU1002
	S703	PUSH SWITCH	SULL6S
OTHERS			
	CN4	JUMPER CONNECTOR	KPE15
	CN9	JUMPER CONNECTOR	KPC8
	RY301,RY302	RELAY	ASR-112
	RY303	RELAY	ASR-111
		PHONO JACK 4-P	AKB1007
		PHONO JACK 6-P	AKB1008
		PHONO JACK 6-P	AKB1024
		SPEAKER TERMINAL 8-P	AKE1011

3.4 ADJUSTMENT

ADJUSTMENT OF IDLE CURRENT

1. Connect wire as shown in Fig. 3-1.
2. After power ON, aging lasts for 5 mins with no-load.
3. In the Lch VR201 should be adjusted so that both terminal voltages of R269 may attain to 20 mV (±3 mV).
4. In the Rch VR202 should be adjusted so that both terminal voltages may attain to 20 mV (±3 mV).

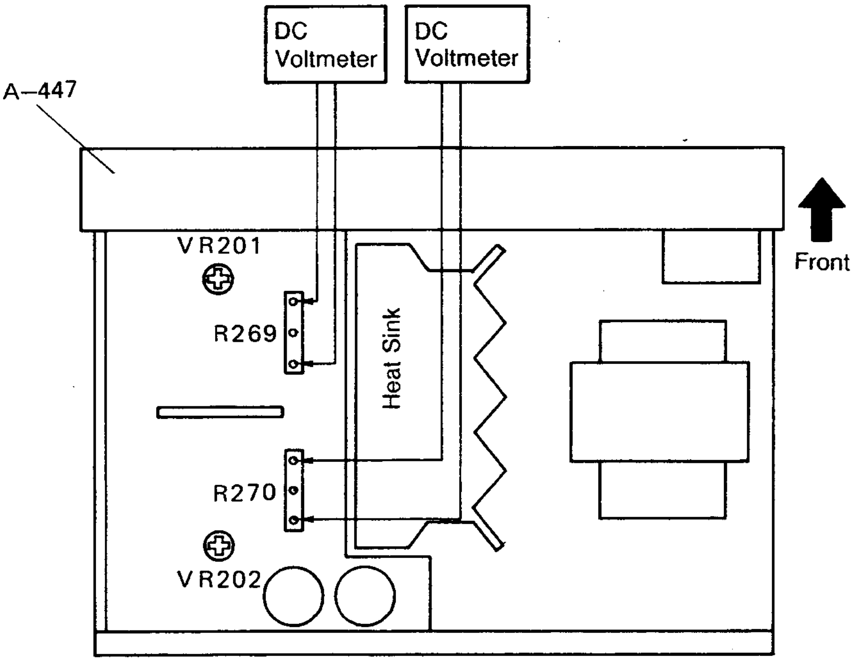

DC Voltmeter
DC Voltmeter
A–447
Front
VR201
R269
Heat Sink
R270
VR202

Fig. 3-1 Adjustment Drawing

3.4 RÉGLAGE

RÉGLAGE DU COURANT DÉWATTÉ

1. Brancher les fils comme indiqué dans la fig. 3-1.
2. Après la mise sous tension, le moteur dure 5 minutes et n'introduire charge.
3. VR 201 sera réglé dans le canal gauche de manière que les deux tensions de bornes de R269 atteignent 20 mV (±3 mV).
4. VR 202 sera réglé dans le canal droit de manière que les deux tensions de bornes atteignent 20 mV (±3 mV).

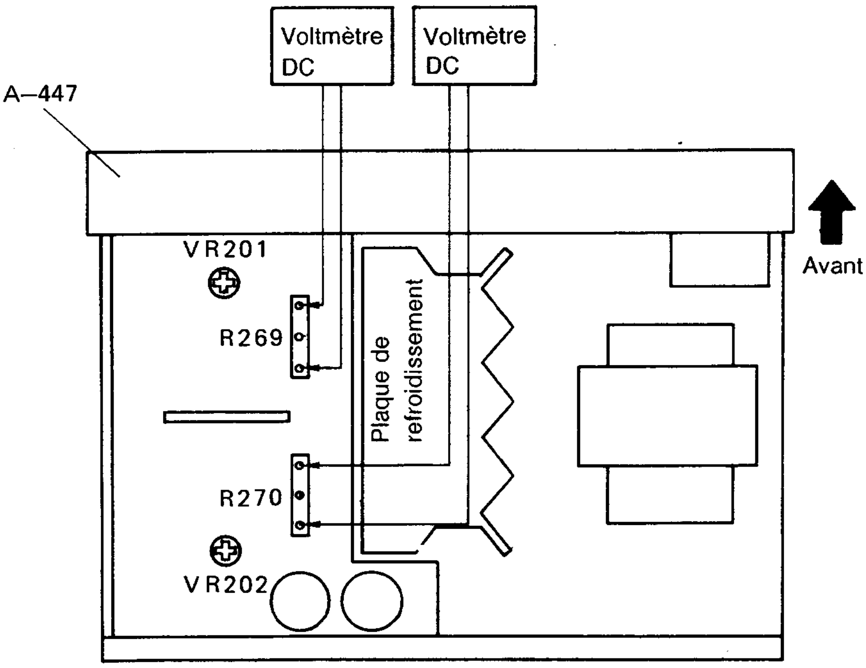

Voltmètre DC
Voltmètre DC
A–447
Avant
VR201
R269
Plaque de refroidissement
R270
VR202

Fig. 3-1 Schéma du réglage

3.4 AJUSTE

AJUSTE DE LA CORRIENTE DEVATIADA

1. Conecte el cable como lo ilustra la Fig. 3-1.
2. El motor funciona por 5 mintos después de encender la unidad, sin introduzca.
3. El VR201 del canal izquierdo debe ajustarse de modo que la tensión entre ambos bornes de R269 llegue a 20 mV (±3 mV).
4. El VR202 del canal derecho debe ajustarse de modo que la tensión entre ambos bornes llegue a 20 mV (±3 mV).

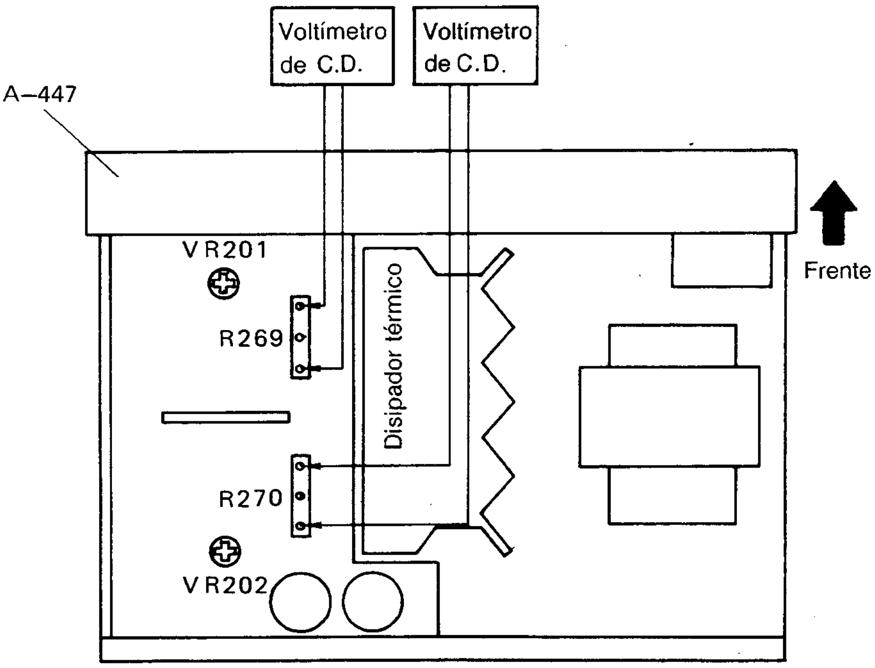
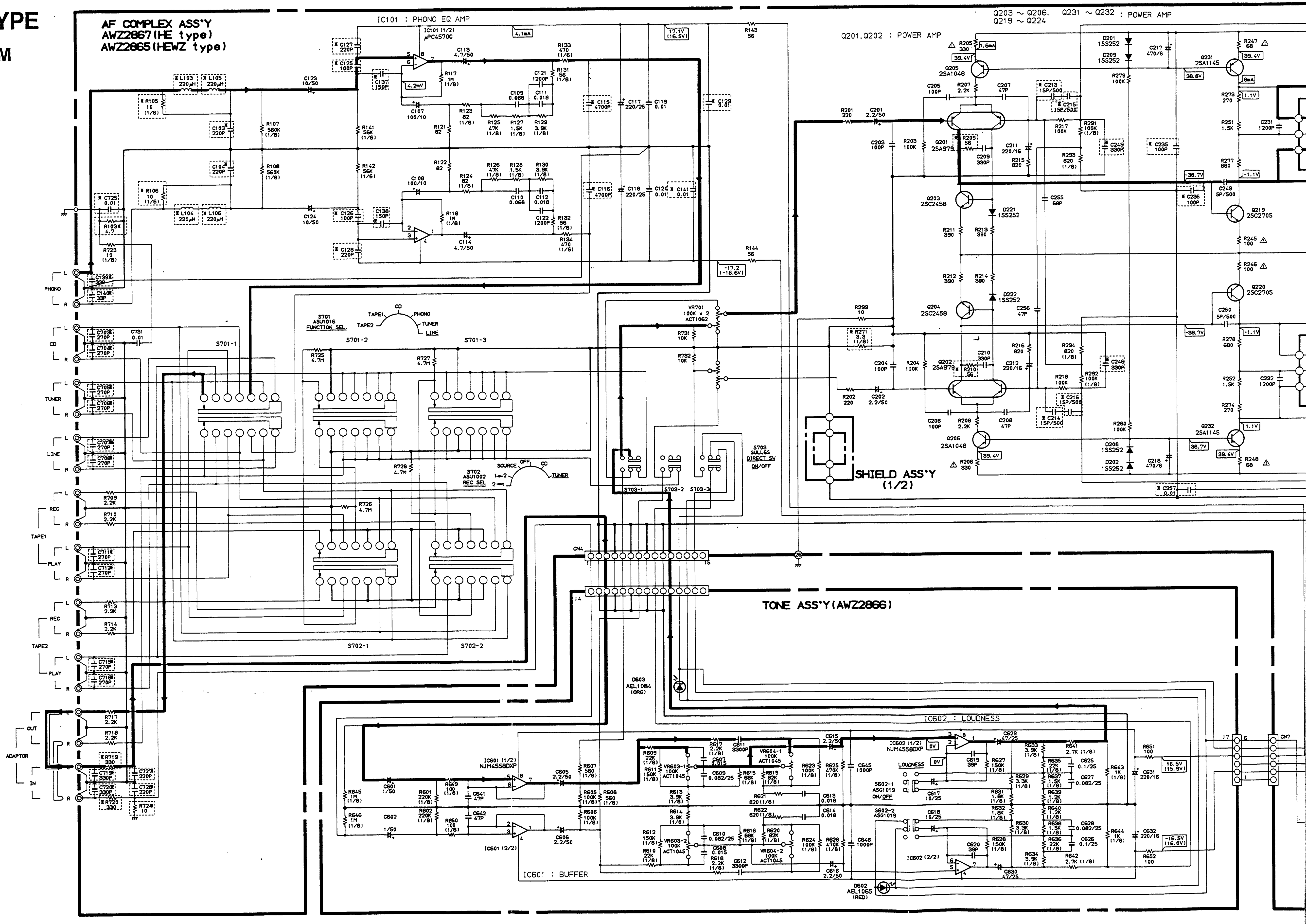
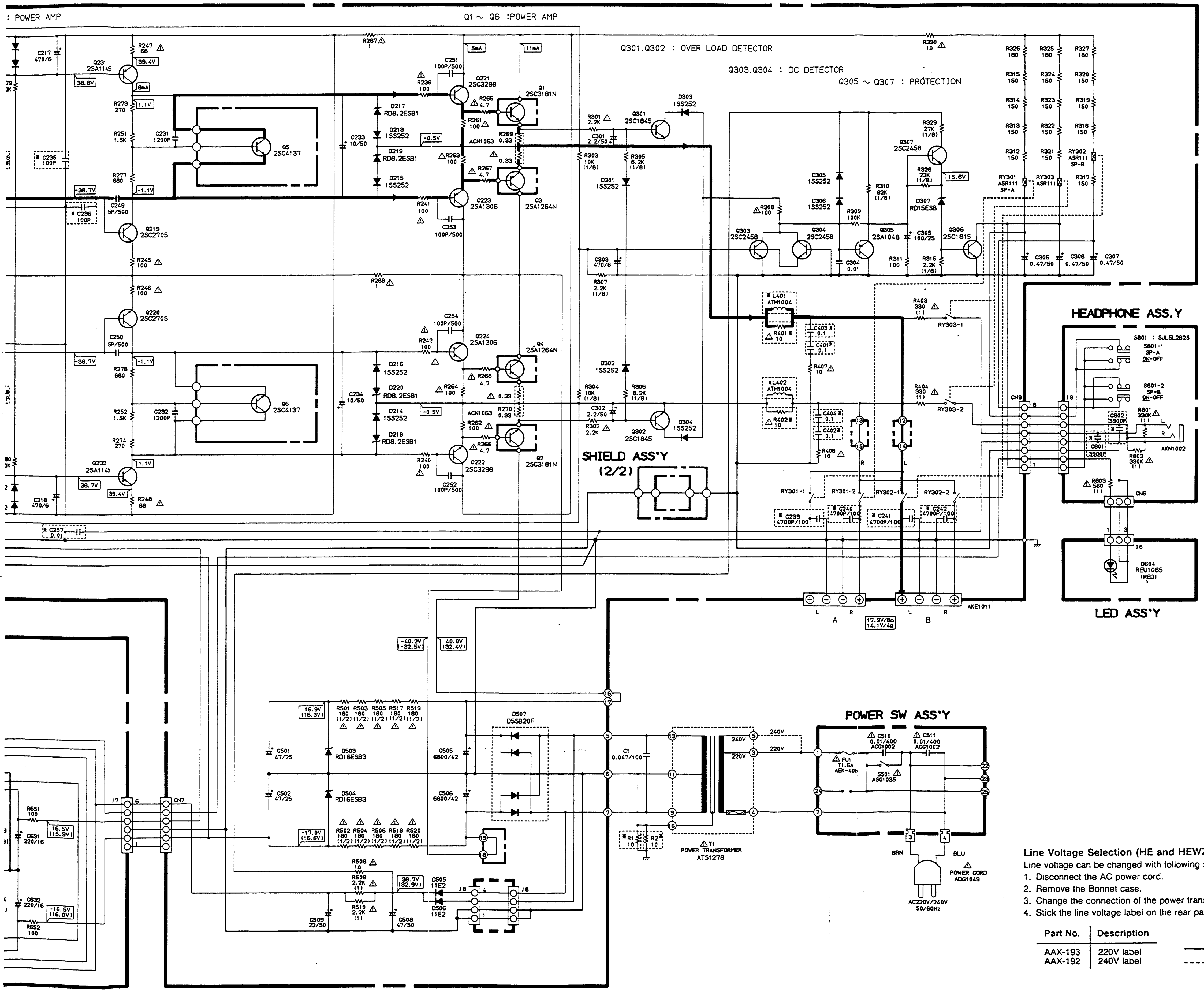

Voltímetro de C.D.
Voltímetro de C.D.
A–447
Frente
VR201
R269
Disipador térmico
R270
VR202

Fig. 3-1 Diagrama de ajuste

4. FOR A-337/HE TYPE

4.1 SCHEMATIC DIAGRAM


AF COMPLEX ASS'Y
AWZ2867(HE type)
AWZ2865(HEWZ type)
IC101 : PHONO EQ AMP
IC101 (1/2) μPC4570C
Q201,Q202 : POWER AMP
Q203 ~ Q206, Q219 ~ Q224
Q231 ~ Q232 : POWER AMP
PHONO
CD
TUNER
LINE
TAPE1
REC
PLAY
TAPE2
ADAPTOR
OUT
IN
S701 ASU1016 FUNCTION SEL.
TAPE1
CD
PHONO
TAPE2
TUNER
LINE
S701-1
S701-2
S701-3
S702 ASU1002 REC SEL
SOURCE
OFF
S702-1
S702-2
VR701 100K x 2 ACT1062
S703 SUL1065 DIRECT SW ON/OFF
S703-1
S703-2
S703-3
SHIELD ASS'Y (1/2)
CN4
TONE ASS'Y(AWZ2866)
D603 AEL1064 (ORG)
IC601 (1/2) NJM4558DXP
IC601 (2/2)
IC601 : BUFFER
IC602 : LOUDNESS
IC602 (1/2) NJM4558DXP
IC602 (2/2)
LOUDNESS
S602-1 ASG1019 ON/OFF
S602-2 ASG1019
VR603-1 100K ACT1045
VR603-2 100K ACT1045
VR604-1 100K ACT1045
VR604-2 100K ACT1045
D602 AEL1065 (RED)
J7
CN7
1
2
3
4
5
6
7
A
B
C
D


: POWER AMP
Q1 ~ Q6 :POWER AMP
Q301,Q302 : OVER LOAD DETECTOR
Q303,Q304 : DC DETECTOR
Q305 ~ Q307 : PROTECTION
Q1 2SC3181N
Q2 2SC3181N
Q3 2SA1264N
Q4 2SA1264N
Q5 2SC4137
Q6 2SC4137
Q221 2SC3298
Q222 2SC3298
Q223 2SA1306
Q224 2SA1306
Q219 2SC2705
Q220 2SC2705
Q231 2SA1145
Q232 2SA1145
Q301 2SC1845
Q302 2SC1845
Q303 2SC2458
Q304 2SC2458
Q305 2SA1048
Q306 2SC1815
Q307 2SC2458
D303 1SS252
D304 1SS252
D305 1SS252
D306 1SS252
D307 RD15ESB
ACN1063
L401 ATH1004
L402 ATH1004
RY301-1
RY301-2
RY302-1
RY302-2
RY303-1
RY303-2
SHIELD ASS'Y (2/2)
HEADPHONE ASS,Y
S801 : SULSL2825
S801-1 SP-A ON-OFF
S801-2 SP-B ON-OFF
AKN1002
LED ASS'Y
D604 REU1065 (RED)
AKE1011
A
B
L
R
17.9V/8Ω
14.1V/4Ω
POWER SW ASS'Y
S501 ASG1035
FU1 T1.6A AEK-405
C510 0.01/400 ACG1002
C511 0.01/400 ACG1002
BRN
BLU
POWER CORD ADG1049
AC220V/240V 50/60Hz
T1 POWER TRANSFORMER ATS1278
240V
220V
D507 D5SB20F
C505 6800/42
C506 6800/42
C1 0.047/100
D503 RD16ESB3
D504 RD16ESB3
D505 11E2
D506 11E2
-40.2V (-32.5V)
40.0V (32.4V)
16.9V (16.3V)
-17.0V (16.6V)
38.7V (32.9V)
16.5V (15.9V)
-16.5V (16.0V)
CN7
J7
J8
CN9
J9
CN6
J6

- This circuit diagram is based on the HE version.
- Parts with an asterisk (*) are different from this prepared for the HEWZ version.
- Refer to the comparison list.

* Marks are difference between two assemblies.		
	A-337/HE	A-337/HEWZ, A-337-S/HEWZ
AF COMPLEX ASS'Y	AWZ2867	AWZ2865
L103 –L106 L401, L402	VACANT (OPEN) ATH1004	LAU221K ATH1009
C103, C104 C115, C116 C125, C126 C127, C128 C129	CCCSL221J50 CQMA472K50 VACANT (OPEN) VACANT (OPEN) VACANT (OPEN)	CCCSL330J50 CQMA392K50 CCCSL101J50 CCDSL221J50 CKPYX103N25
C139, C140 C141 C213, C214 C215, C216 C235, C236	VACANT (OPEN) VACANT (OPEN) CCCSL150K500 CCCSL150K500 CCCSL101J50	CCDSL330J50 CKCYF103Z50 CCCSL080D500 VACANT (OPEN) CEASOR1M50
C239–C242 C245, C246 C257 C401, C402 C403, C404	VACANT (OPEN) VACANT (OPEN) VACANT (OPEN) CFTXA104J50 CFTXA104J50	CQMXA472J100 CKCYB331K50 CKCYF103Z50 CFTXA473J50 VACANT (JAMPER WIRE)
C703–C708 C711, C712 C715, C716 C719, C720 C725	VACANT (OPEN) VACANT (OPEN) VACANT (OPEN) CKCYB331K50 CKCYF103Z50	CCCSL271J50 CCCSL271J50 CCCSL271J50 CCCSL271J50 CCDSL221J50
C727, C728 R103 R105, R106 R209, R210 R271	VACANT (OPEN) VACANT (OPEN) RDR1/6PU100J RD1/4PM331J VACANT (OPEN)	CCDSL221J50 RD1/8PM4R7J RD1/8PM332J RD1/4PM560J RD1/8PM3R3J
R401, R402 R719, R720 R724	RD1/4PMFL100J VACANT (JUMPER WIRE) VACANT (OPEN)	RD1/4PMFL101J RD1/8PM331J RD1/8PM100J
HEAD PHONE ASS'Y	AWZ2862	AWZ2857
C801, C802	VACANT (OPEN)	CKCYB392K50
OTHERS		
R1, R2	VACANT (OPEN)	RD1/4PM100J

1. **RESISTORS:**
   Indicated in Ω, 1/8, 1/4W, ±5% tolerance unless otherwise noted K; kΩ, M; MΩ, (F); ±1%, (G); ±2%, (K); ±10%, (M); ±20% tolerance.
2. **CAPACITORS:**
   Indicated in capacity (μF) / voltage (V) unless otherwise noted p; pF. Indication without voltage is 50V except electrolytic capacitor.
3. **VOLTAGE CURRENT:**
   - V ; Signal voltage at (40W + 40W/8Ω, 50W + 50W/4Ω) output (1kHz).
   - ; DC voltage (V) at no input signal. Value in ( ) is DC voltage at rated power.
   - mA ; DC current at no input signal.
   - mV ; Signal voltage at FM 400Hz ± 75Hz DEV.
4. **OTHERS**
   - →; Signal route.
   - ⊘ ; Adjusting point.
   - The ⚠ mark found on some component parts indicates the importane of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
   - ※ marked capacitor and resistor have parts number.
   - This is the basic schematic diagram, but the actual circuit way vary due to improvements in design.
5. **SWITCHES (The underline indicates the switch position)**
   S501 : POWER SW (ON-OFF)
   S602 : LOUDNESS (ON-OFF)
   S701 : FUNCTION SEL (TAPE 2 – TAPE 1 – CD – PHONO – TUNER – LINE)
   S702 : REC SEL (2→1 – 1→2 – SOURCE – OFF – CD – TUNER)
   S703 : SULLES (ON – OFF)
   S801-1 : SPEAKERS-A (ON-OFF)
   S801-2 : SPEAKERS-B (ON-OFF)

Line Voltage Selection (HE and HEWZ types)

Line voltage can be changed with following steps.

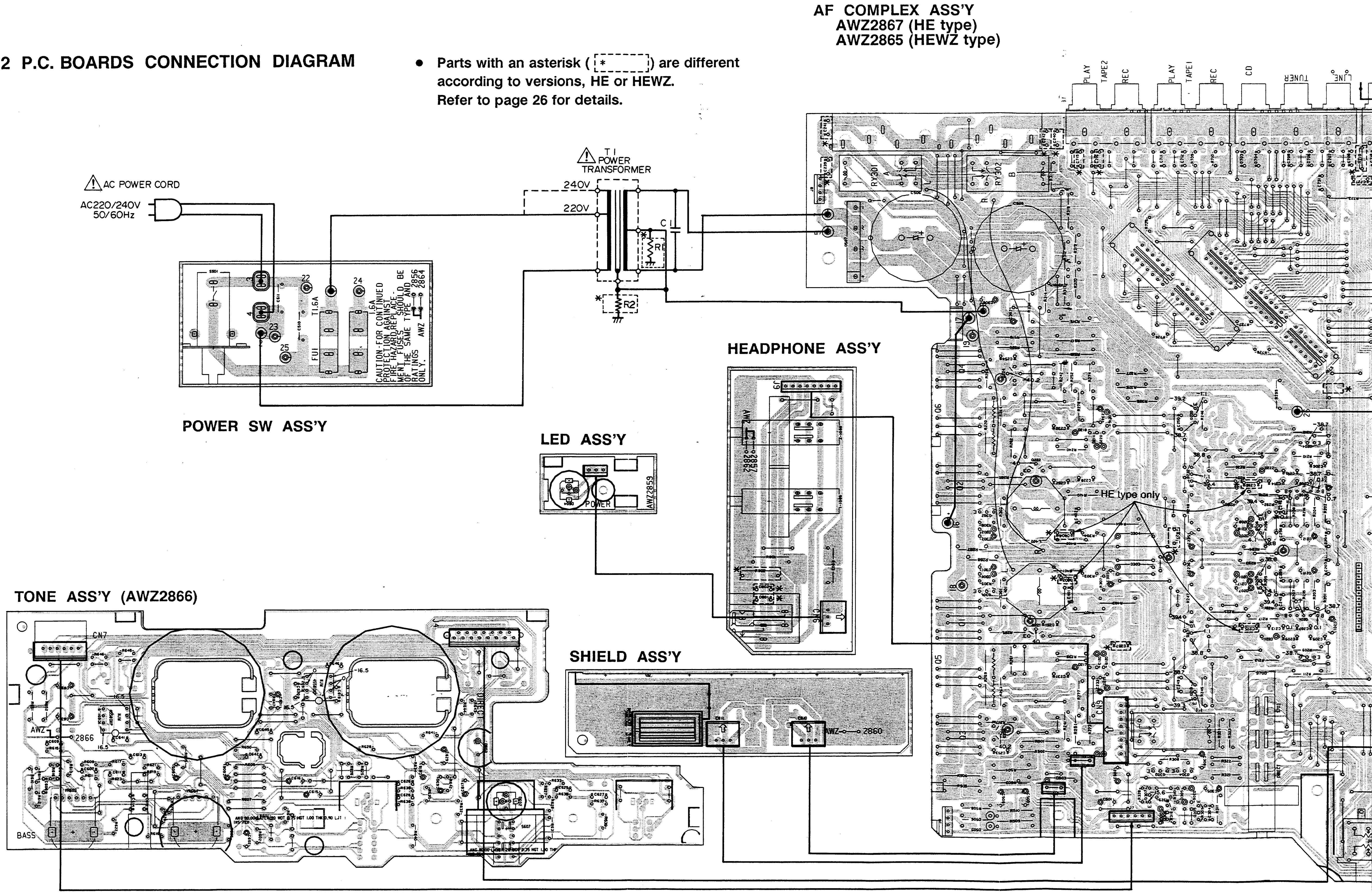
1. Disconnect the AC power cord.
2. Remove the Bonnet case.
3. Change the connection of the power transformer lead wire.
4. Stick the line voltage label on the rear panel.

Part No.	Description
AAX-193	220V label
AAX-192	240V label

——— 220V
- - - - - 240V

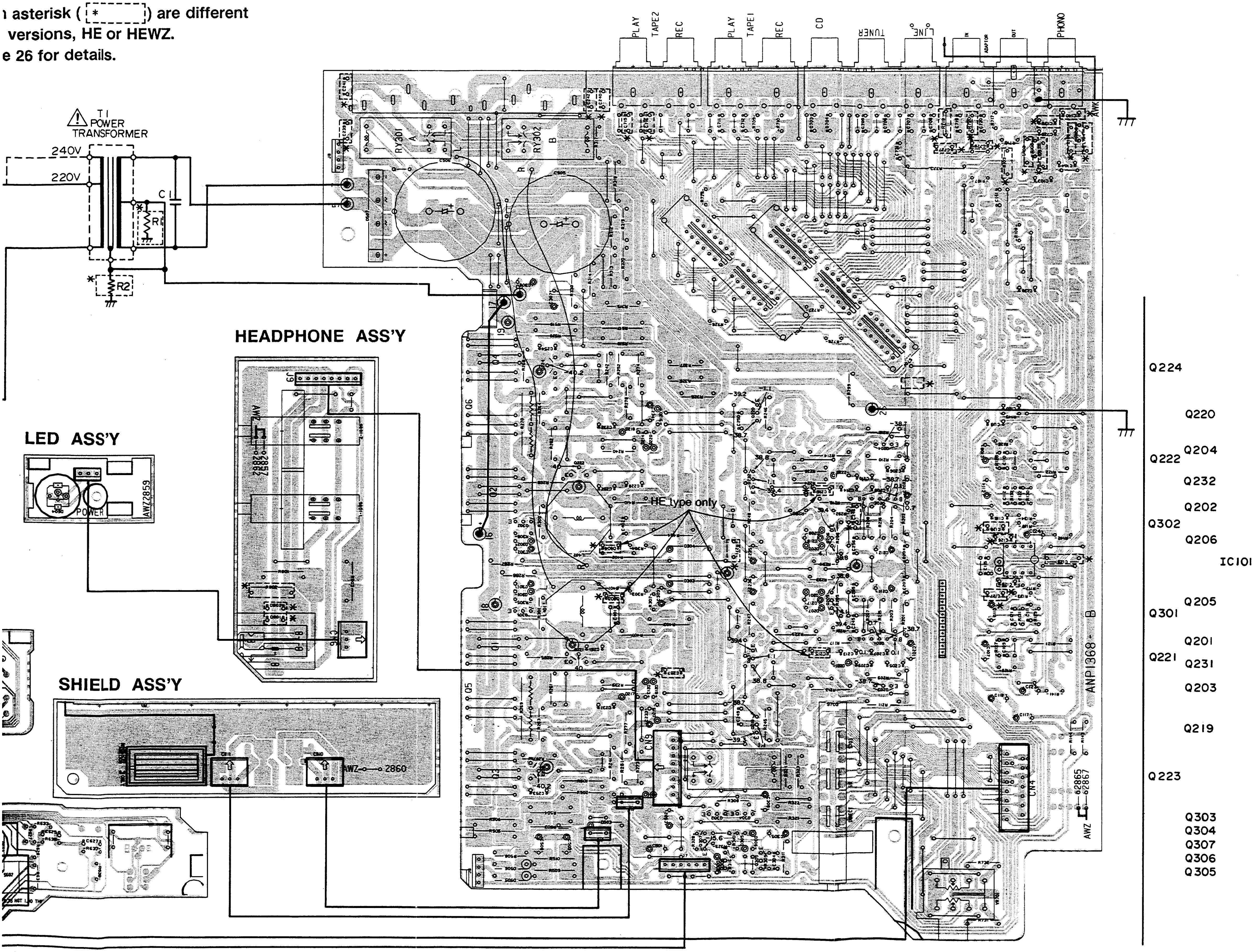
4.2 P.C. BOARDS CONNECTION DIAGRAM

- Parts with an asterisk (*) are different according to versions, HE or HEWZ. Refer to page 26 for details.


1
2
3
4
5
6
A
B
C
D
AF COMPLEX ASS'Y
AWZ2867 (HE type)
AWZ2865 (HEWZ type)
PLAY
TAPE2
REC
PLAY
TAPE1
REC
CD
TUNER
LINE
RY301
RY302
AC POWER CORD
AC220/240V
50/60Hz
T1
POWER
TRANSFORMER
240V
220V
C1
R1
R2
*
22
23
24
25
T1.6A
1.6A
FU1
CAUTION-FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,REPLACEMENT FUSES SHOULD BE OF THE SAME TYPE AND RATINGS ONLY.
AWZ 2856 2864
POWER SW ASS'Y
LED ASS'Y
POWER
AWZ2859
HEADPHONE ASS'Y
AWZ 2857 2862
HE type only
TONE ASS'Y (AWZ2866)
CN7
AWZ 2866
BASS
-16.5
16.5
SHIELD ASS'Y
AWZ 2860
CN9
17
18
19
20
21

AF COMPLEX ASS'Y
AWZ2867 (HE type)
AWZ2865 (HEWZ type)

ı asterisk (*) are different
versions, HE or HEWZ.
e 26 for details.


T1 POWER TRANSFORMER
240V
220V
C1
R1
R2
PLAY TAPE2 REC
PLAY TAPE1 REC
CD
TUNER
LINE
IN ADAPTOR OUT
PHONO
RY301 A
RY302 B
HEADPHONE ASS'Y
AWZ2862
LED ASS'Y
POWER
AWZ2859
SHIELD ASS'Y
AWZ 2860
HE type only
ANP1368-B
AWZ 62865 62867
CN4
CN9
Q224
Q220
Q222
Q204
Q232
Q202
Q302
Q206
IC101
Q205
Q301
Q201
Q221
Q231
Q203
Q219
Q223
Q303
Q304
Q307
Q306
Q305

1. This P.C.B connection diagram is seen from the parts mount side.
2. The parts mounted on to the P.C.B can be replaced with those shown in the following correspondence table with wiring marks.

Indication of the P.C.B. pattern	Symbol of corresponding parts	Parts name
E Q504	E or E	Transistor
Q215	or	Radiator type transistor
D203	D203	Diode
R237	R237	Resistor
C513	+	Condenser (Polar type)
C518		Condenser (Non-polar type)

Others

Wiring mark on the P.C.B pattern diagram	Parts list
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or semi-fixed resistor

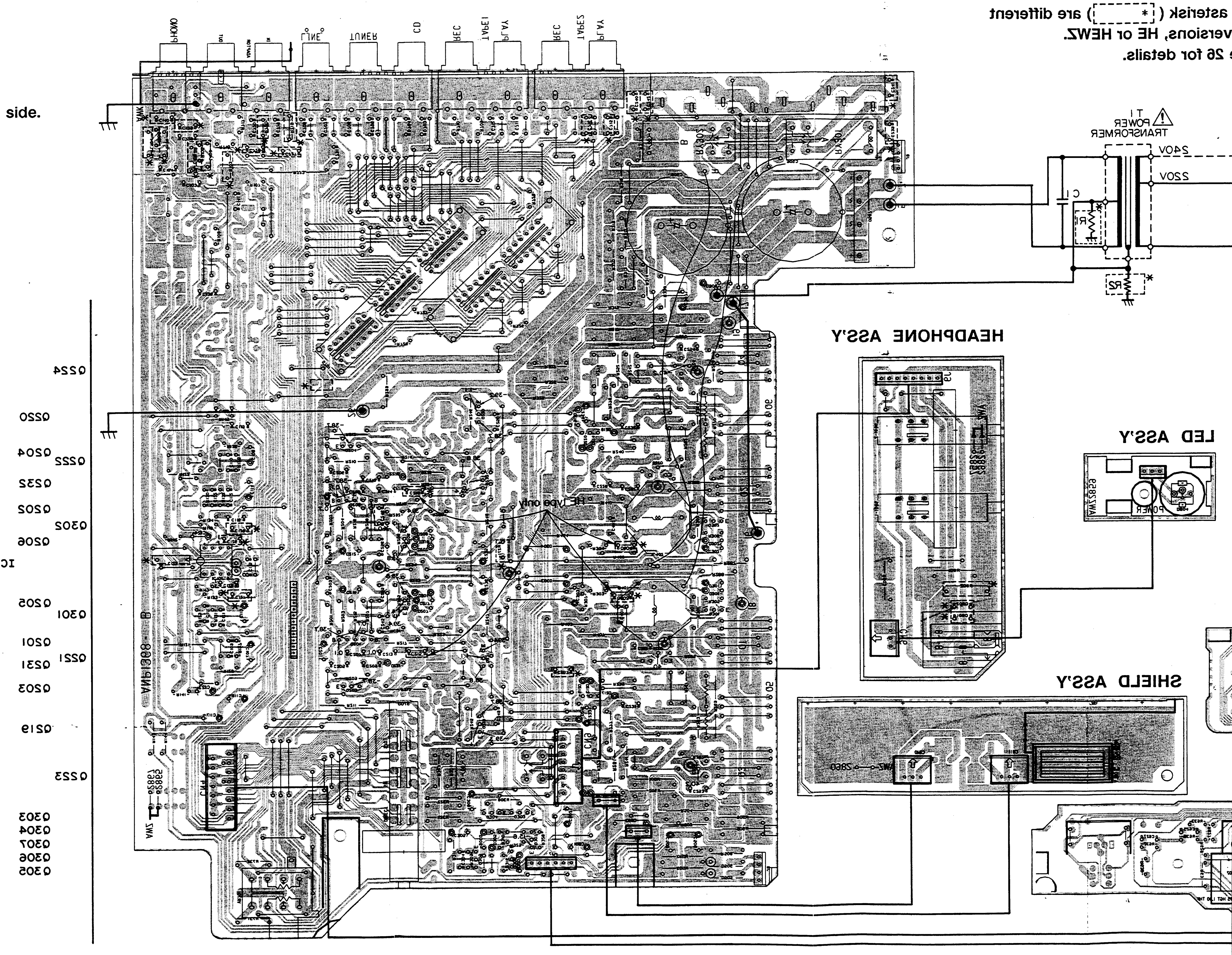
3. The condenser terminal marked with double circles (◎) represents (−) terminal.
4. The diode terminal marked with double circles (◎) represents the cathode side.
5. The transistor terminal marked with "E" represents an emitter.

AF COMPLEX ASS'Y
AWZ2867 (HE type)
AWZ2865 (HEWZ type)

asterisk (*) are different
versions, HE or HEWZ.
26 for details.

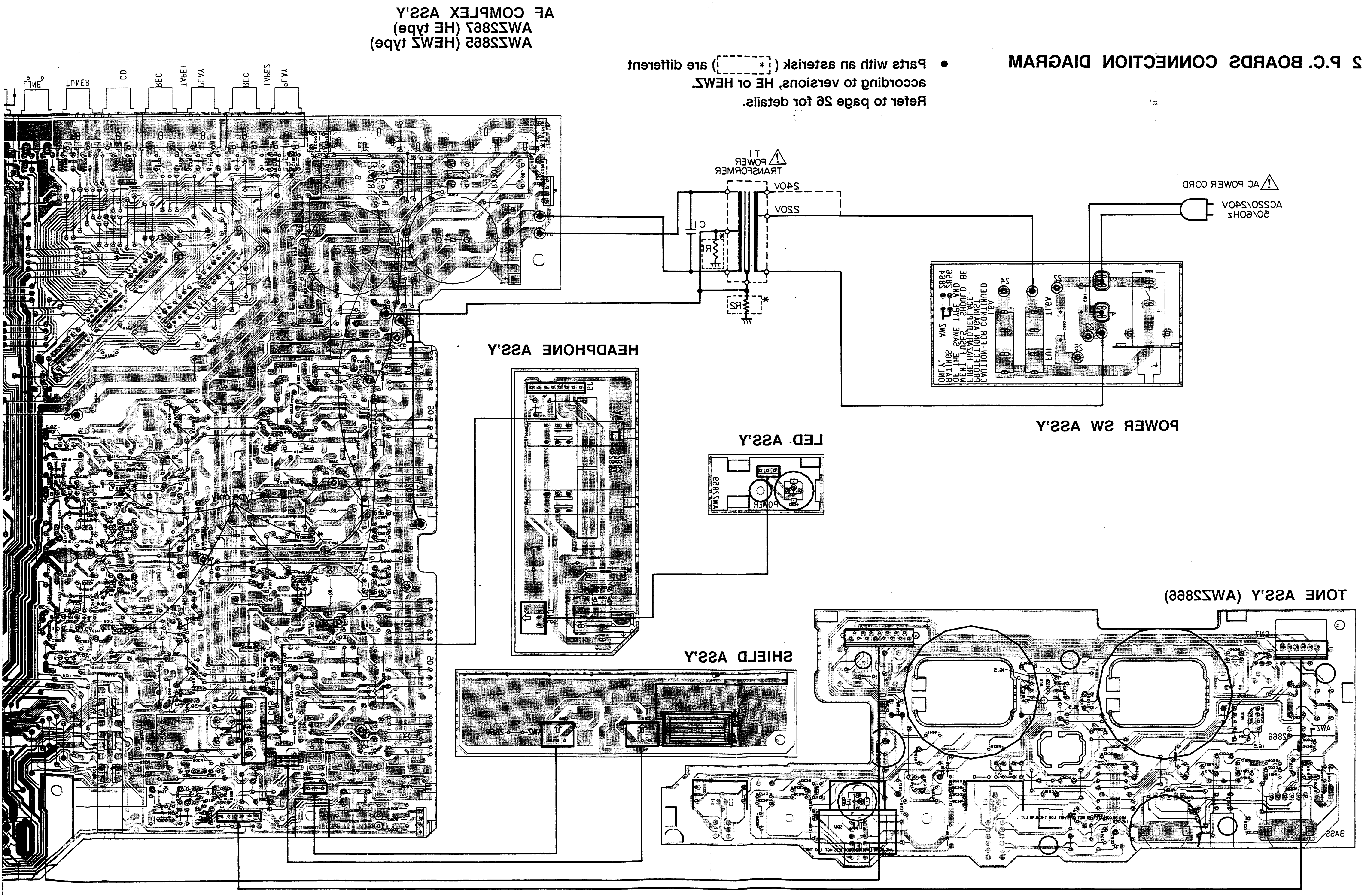
- View from soldering side

This P.C.B. connection diagram is viewed from the foil side.


A
B
C
D
PHONO
LINE
TUNER
CD
REC TAPE1 PLAY
REC TAPE2 PLAY
T1 POWER TRANSFORMER
240V
220V
C1
R1
R2
HEADPHONE ASS'Y
LED ASS'Y
POWER
SHIELD ASS'Y
HE type only
ANP1988-B
Q224
Q220
Q204
Q222
Q232
Q202
Q302
Q206
IC101
Q205
Q301
Q201
Q231
Q221
Q203
Q219
Q223
Q303
Q304
Q307
Q306
Q305

4.2 P.C. BOARDS CONNECTION DIAGRAM

- Parts with an asterisk (*) are different according to versions, HE or HEWZ. Refer to page 26 for details.


AF COMPLEX ASS'Y
AWZ2867 (HE type)
AWZ2865 (HEWZ type)
LINE
TUNER
CD
REC
TAPE1
PLAY
REC
TAPE2
PLAY
T1 POWER TRANSFORMER
240V
220V
C
R1
R2
AC POWER CORD
AC220/240V
50/60Hz
POWER SW ASS'Y
HEADPHONE ASS'Y
LED ASS'Y
POWER
AWZ2865
HE type only
SHIELD ASS'Y
AWZ2860
TONE ASS'Y (AWZ2866)
BASS
AWZ
2866
A
B
C
D
1
2
3
4
5
6

4.3 P.C.B's PARTS LIST

NOTES:

- *Parts without part number cannot be supplied.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω 56×10^1 561........................RD1/4PS 5 6 1 J
47kΩ 47×10^3 473........................RD1/4PS 4 7 3 J
0.5Ω 0R5..RN2H 0 R 5 K
1Ω 010..RS1P 0 1 0 K

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ 562×10^1 5621........................RN1/4SR 5 6 2 1 F

LED ASS'Y

SEMICONDUCTOR

Mark	No.	Description	Parts No.
	D604	LED(RED)	AEL1065

SHIELD ASS'Y

No parts supplied with the SHIELD Ass'y.

HEADPHONE ASS'Y

RESISTORS

Mark	No.	Description	Parts No.
⚠	R801,R802	METAL OXIDE RESISTOR	RS1PMF331J
⚠	R803	METAL OXIDE RESISTOR	RS1LMF561J

SWITCH

Mark	No.	Description	Parts No.
	S801	PUSH SWITCH	SUL5L2B2S

OTHERS

Mark	No.	Description	Parts No.
		JACK	AKN1002
	CN6	JUMPER CONNECTOR 3-P	KPC3

POWER SW ASS'Y

CAPACITORS

Mark	No.	Description	Parts No.
⚠	C510,C511	CKA (0.01/AC400V)	ACG1002

SWITCH

Mark	No.	Description	Parts No.
⚠	S501	PUSH SWITCH	ASG1035

TONE ASS'Y (AWZ2866)

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC601,IC602	OP-AMP IC	NJM4558DXP
	D505,D506	DIODE	11E2
	D602	LED(RED)	AEL1065
	D603	LED	AEL1084

CAPACITORS

Mark	No.	Description	Parts No.
	C601,C602	ELECTR. CAPACITOR	CEAS010M50
	C605,C606	ELECTR. CAPACITOR	CEAS2R2M50
	C607,C608	CERAMIC CAPACITOR	CKDYX153M25
	C609,C610	CERAMIC CAPACITOR	CKDYX823M25
	C611,C612	CERAMIC CAPACITOR	CKCYB332K50
	C613,C614	CERAMIC CAPACITOR	CKDYX183M25
	C615,C616	ELECTR. CAPACITOR	CEAS2R2M50
	C617,C618	ELECTR. CAPACITOR	CEAS100M25
	C619,C620	CERAMIC CAPACITOR	CCDSL390J50
	C625,C626	CERAMIC CAPACITOR	CKDYX104M25
	C627,C628	CERAMIC CAPACITOR	CKDYX823M25
	C629,C630	ELECTR. CAPACITOR	CEAS470M25
	C631,C632	ELECTR. CAPACITOR	CEAS221M16
	C641,C642	CERAMIC CAPACITOR	CCCSL470J50
	C645,C646	CERAMIC CAPACITOR	CKCYB102K50

RESISTORS

Mark	No.	Description	Parts No.
	VR603,VR604	VARIABLE(100K-20AX2)	ACT1045
	R651,R652	CARBON FILM RESISTOR	RD1/4PM101J
		OTHER RESISTORS	RD1/8PM□□□J

SWITCH

Mark	No.	Description	Parts No.
	S602	PUSH SWITCH	ASG1019

AF COMPLEX ASS'Y (AWZ2867)

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC101	OP-AMP IC	M5220P
	Q201,Q202	TRANSISTOR	2SA979
	Q203,Q204	TRANSISTOR	2SC2458
	Q205,Q206	TRANSISTOR	2SA1048
	Q219,Q220	TRANSISTOR	2SC2705
	Q221,Q222	TRANSISTOR	2SC3298
	Q223,Q224	TRANSISTOR	2SA1306
	Q231,Q232	TRANSISTOR	2SA1145
	Q301,Q302	TRANSISTOR	2SC1845
	Q303,Q304	TRANSISTOR	2SC2458
	Q305	TRANSISTOR	2SA1048
	Q306	TRANSISTOR	2SC1815
	Q307	TRANSISTOR	2SC2458
	D201,D202	DIODE	1SS252
	D207,D208	DIODE	1SS252

Mark	No.	Description	Parts No.
	D213-D216	DIODE	1SS252
	D217-D220	ZENER DIODE	RD8.2ESB1
	D221,D222	DIODE	1SS252
	D301-D306	DIODE	1SS252
	D307	ZENER DIODE	RD15ESB
	D503	ZENER DIODE	RD16ESB3
	D504	ZENER DIODE	RD16ESB3
	D507	DIODE	D5SB20F

COILS & FILTERS

Mark	No.	Description	Parts No.
	L401,L402	COIL	ATH1004

CAPACITORS

Mark	No.	Description	Parts No.
	C103,C104	CERAMIC CAPACITOR	CCCSL221J50
	C107,C108	ELECTR. CAPACITOR	CEAS101M10
	C109,C110	AUDIO FILM CAPACITOR	CFTXA683J50
	C111,C112	AUDIO FILM CAPACITOR	CFTXA183J50
	C113,C114	ELECTR. CAPACITOR	CEAS4R7M50
	C115,C116	MYLOR FILM CAPACITOR	CQMA472K50
	C117,C118	ELECTR. CAPACITOR	CEAS221M25
	C119,C120	CERAMIC CAPACITOR	CKCYF103Z50
	C121,C122	MYLOR FILM CAPACITOR	CQMA122J50
	C123,C124	ELECTR. CAPACITOR	CEAS100M50
	C201,C202	ELECTR. CAPACITOR	CEEA2R2M50
	C203-C206	CERAMIC CAPACITOR	CCCSL101J50
	C207,C208	CERAMIC CAPACITOR	CCCSL470J50
	C209,C210	CERAMIC CAPACITOR	CKCYB331K50
	C211,C212	ELECTR. CAPACITOR	CEEA221M16
	C213-C216	CERAMIC CAPACITOR	CCCSL150K500
	C217,C218	ELECTR. CAPACITOR	CEAS471M6
	C231,C232	CERAMIC CAPACITOR	CKCYB122K50
	C233,C234	ELECTR. CAPACITOR	CEAS100M50
	C235,C236	CERAMIC CAPACITOR	CCCSL101J50
	C249,C250	CERAMIC CAPACITOR	CCCSL050C500
	C251-C254	CERAMIC CAPACITOR	CCCSL101K500
	C255	CERAMIC CAPACITOR	CCCSL680J50
	C256	CERAMIC CAPACITOR	CCDSL470J50
	C301,C302	ELECTR. CAPACITOR	CEAS2R2M50
	C303	ELECTR. CAPACITOR	CEAS471M6
	C304	CERAMIC CAPACITOR	CKCYF103Z50
	C305	ELECTR. CAPACITOR	CEAS101M25
	C306-C308	ELECTR. CAPACITOR	CEASR47M50
	C401-C404	AUDIO FILM CAPACITOR	CFTXA104J50
	C501,C502	ELECTR. CAPACITOR	CEAS470M25
	C505,C506	ELECTR. CAPACITOR (6800/42V)	ACH1077
	C508	ELECTR. CAPACITOR	CEAS470M50
	C509	ELECTR. CAPACITOR	CEAS220M50
	C719,C720	CERAMIC CAPACITOR	CKCYB331K50
	C725	CERAMIC CAPACITOR	CKCYF103Z50
	C731	CERAMIC CAPACITOR	CKCYF103Z50

RESISTORS

Mark	No.	Description	Parts No.
	VR701	VARIABLE(100K-20AX2)	ACT1062
	R105,R106	CARBON FILM RESISTOR	RDR1/6PU100J
	R121,R122	CARBON FILM RESISTOR	RDR1/4PM820J
	R133,R134	CARBON FILM RESISTOR	RDR1/6PU471J
	R141,R142	CARBON FILM RESISTOR	RDR1/6PU563J
	R143,R144	CARBON FILM RESISTOR	RD1/4PM560J
	R201-R204	CARBON FILM RESISTOR	RDR1/4PM□□□J
⚠	R205,R206	CARBON FILM RESISTOR	RD1/4PMF331J
	R207-R214	CARBON FILM RESISTOR	RD1/4PM□□□J
	R215-R218	CARBON FILM RESISTOR	RDR1/4PM□□□J
⚠	R239-R242	FUSLIBLE RESISTOR	RFA1/4PS101J
⚠	R245,R246	FUSLIBLE RESISTOR	RFA1/4PS101J
⚠	R247,R248	CARBON FILM RESISTOR	RD1/4PMF680J
	R251,R252	METALFILM RESISTER	RN1/4PQ1501F
⚠	R261-R264	CARBON FILM RESISTOR	RD1/4PMF101J
⚠	R265-R268	FUSLIBLE RESISTOR	RFA1/4PS4R7J
⚠	R269,R270	RESISTOR (0.33, 5W)	ACN1063
	R273,R274	CARBON FILM RESISTOR	RD1/4PM271J
	R277-R280	CARBON FILM RESISTOR	RD1/4PM□□□J
⚠	R287,R288	CARBON FILM RESISTOR	RD1/4PMF010J
	R299	CARBON FILM RESISTOR	RD1/4PM100J
⚠	R301,R302	CARBON FILM RESISTOR	RD1/4PMF222J
⚠	R308	CARBON FILM RESISTOR	RD1/4PMF101J
	R311-R315	CARBON FILM RESISTOR	RD1/4PM□□□J
	R317-R327	CARBON FILM RESISTOR	RD1/4PM□□□J
⚠	R330	CARBON FILM RESISTOR	RD1/4PMF010J
⚠	R401,R402	CARBON FILM RESISTOR	RD1/4PMFL100J
⚠	R403,R404	METAL OXIDE RESISTOR	RS1LMF331J
⚠	R407,R408	CARBON FILM RESISTOR	RD1/4PMFL100J
	R501-R506	CARBON FILM RESISTOR	RD1/2PM181J
⚠	R508	CARBON FILM RESISTOR	RD1/4PMF010J
⚠	R509,R510	METAL OXIDE RESISTOR	RS1LMF222J
	R517-R520	CARBON FILM RESISTOR	RD1/2PM181J
	R731,R732	CARBON FILM RESISTOR	RD1/4PM103J
		OTHER RESISTORS	RD1/8PM□□□J

SWITCHES

Mark	No.	Description	Parts No.
	S701	SWITCH	ASU1016
	S702	SWITCH	ASU1002
	S703	PUSH SWITCH	SULL6S

OTHERS

Mark	No.	Description	Parts No.
	CN4	JUMPER CONNECTOR	KPE15
	CN9	JUMPER CONNECTOR	KPC8
	RY301-RY303	RELAY	ASR-111
		PHONO JACK 6-P	AKB1007
		PHONO JACK 6-P	AKB1008
		PHONO JACK 6-P	AKB1024
		SPEAKER TERMINAL 8-P	AKE1011

5. FOR A-447/HEWZ AND A-447-S/HEWZ TYPES

NOTES:

- *Parts without part number cannot be supplied.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

5.1 Contrast of Miscellaneous Parts

The A-447/HEWZ and A-447-S/HEWZ types are the same as the A-447/HE type with the exception of the following sections.

Mark	Symbol & Description	Parts No.			Remarks
		A-447/HE type	A-447/HEWZ type	A-447-S/HEWZ type	
	AF COMPLEX ASS'Y	AWZ2861	AWZ2855	AWZ2855	
	HEADPHONE ASS'Y	Non supply	Non supply	Non supply	
	POWER SW ASS'Y	Non supply	Non supply	Non supply	
	ROTARY KNOB S (PLS)	AAB1155	AAB1155	AAB1156	
	ROTARY KNOB L (PLS)	AAB1160	AAB1160	AAB1161	
	ROTARY KNOB R (PLS)	AAB1162	AAB1162	AAB1163	
	ROTARY KNOB M (PLS)	AAB1164	AAB1164	AAB1165	
	PUSH KNOB C	AAD1366	AAD1366	AAD1367	
	KNOB (POWER)	AAD1535	AAD1535	AAD1537	
	PUSH KNOB	AAD1536	AAD1536	AAD1538	
	PUSH KNOB C	AAD1803	AAD1803	AAD1804	
	SCREW	BBT30P060FZK	BBT30P060FZK	ABA-274	
	PACKING CASE	AHD1861	AHD1861	AHD1862	
	PANEL BASE (PLS)	AMB1651	AMB1651	AMB1652	
	FRONT PANEL	AMB1395	AMB1395	AMB1396	
	BONNET CASE	AZN1799	AZN1799	AZN1800	
	OPERATING INSTRUCTIONS	ARE1162	------------	------------	
	OPERATING INSTRUCTIONS	------------	ARC1213	ARC1213	
	R1, R2	------------	RD1/4PM100J	RD1/4PM100J	

5.2 P.C.B's PARTS LIST

NOTES:
- *Parts without part number cannot be supplied.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω 56×10^1 561............RD1/4PS $\boxed{5}$ $\boxed{6}$ $\boxed{1}$ J
47kΩ 47×10^3 473............RD1/4PS $\boxed{4}$ $\boxed{7}$ $\boxed{3}$ J
0.5Ω 0R5............RN2H $\boxed{0}$ $\boxed{R}$ $\boxed{5}$ K
1Ω 010............RS1P $\boxed{0}$ $\boxed{1}$ $\boxed{0}$ K

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).
5.62kΩ 562×10^1 5621............RN1/4SR $\boxed{5}$ $\boxed{6}$ $\boxed{2}$ $\boxed{1}$ F

POWER SW ASS'Y

CAPACITORS

Mark	No.	Description	Parts No.
⚠	C510,C511	CKA (0.01/AC400V)	ACG1002

SWITCH

Mark	No.	Description	Parts No.
⚠	S501	PUSH SWITCH	ASG1035

HEADPHONE ASS'Y

CAPACITORS

Mark	No.	Description	Parts No.
	C801,C802	CERAMIC CAPACITOR	CKCYB392K50

RESISTORS

Mark	No.	Description	Parts No.
⚠	R801,R802	METAL OXIDE RESISTOR	RS1PMF331J
⚠	R803	METAL OXIDE RESISTOR	RS1LMF681J

SWITCH

Mark	No.	Description	Parts No.
	S801	PUSH SWITCH	SUL5L2B2S

OTHERS

Mark	No.	Description	Parts No.
	CN6	JUMPER CONNECTOR 3-P	KPC3
		JACK	AKN1002

AF COMPLEX ASS'Y (AWZ2855)

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC101	IC	UPC4570C
	Q101-Q104	N-FET	2SK369
	Q105,Q106	TRANSISTOR	2SC2458
	Q201,Q202	TRANSISTOR	2SA979
	Q203-Q208	TRANSISTOR	2SA1048
	Q211,Q212	TRANSISTOR	2SC1845
	Q215-Q218	TRANSISTOR	2SA1048
	Q219,Q220	TRANSISTOR	2SC2705
	Q221,Q222	TRANSISTOR	2SC3298
	Q223,Q224	TRANSISTOR	2SA1306
	Q225,Q226	TRANSISTOR	2SC2603
	Q227,Q228	TRANSISTOR	2SC1845
	Q229,Q230	TRANSISTOR	2SA992
	Q231,Q232	TRANSISTOR	2SA1145
	Q233,Q234	TRANSISTOR	2SA992
	Q237	TRANSISTOR	2SC1845
	Q238	TRANSISTOR	2SA992
	Q301,Q302	TRANSISTOR	2SC1845
	Q303,Q304	TRANSISTOR	2SC2458
	Q305	TRANSISTOR	2SA1048
	Q306	TRANSISTOR	2SC1815
	Q307	TRANSISTOR	2SC2458
	D101,D102	ZENER DIODE	RD7.5ESB2
	D103	DIODE	1SS252
	D201,D202	ZENER DIODE	RD2.7ESB1
	D209-D216	DIODE	1SS252
	D217-D220	ZENER DIODE	RD15ESB
	D301-D306	DIODE	1SS252
	D307	ZENER DIODE	RD22ESB
	D503,D504	ZENER DIODE	RD18ESB1
	D505,D506	DIODE	11E2
	D507	DIODE	D5SB20F

COILS & FILTERS

Mark	No.	Description	Parts No.
	L101,L102	COIL(270μH)	ATH1010
	L107,L108	COIL(270μH)	LAU3R3K
	L401,L402	COIL	ATH1009

CAPACITORS

Mark	No.	Description	Parts No.
	C101,C102	AUDIO FILM CAPACITOR	CFTXA103J50
	C103,C104	CERAMIC CAPACITOR	CCCSL271J50
	C105,C106	CERAMIC CAPACITOR	CKCYB472K50
	C107,C108	ELECTR. CAPACITOR	CEXA101M25
	C109,C110	AUDIO FILM CAPACITOR	CFTXA683J50
	C111,C112	AUDIO FILM CAPACITOR	CFTXA183J50
	C113,C114	ELECTR. CAPACITOR	CEANP220M10
	C115,C116	MYLOR FILM CAPACITOR	CQMA392K50
	C117,C118	ELECTR. CAPACITOR	CEAS221M25
	C119,C120	CERAMIC CAPACITOR	CKCYF103Z50
	C121,C122	MYLOR FILM CAPACITOR	CQMA122J50
	C127,C128	CERAMIC CAPACITOR	CCDSL101J50
	C129	CERAMIC CAPACITOR	CKPYX103N25
	C135,C136	ELECTR. CAPACITOR	CEAS470M10
	C137,C138	CERAMIC CAPACITOR	CCCSL151J50

Mark	No.	Description	Parts No.
	C139,C140	CERAMIC CAPACITOR	CCCSL330J50
	C141	CERAMIC CAPACITOR	CKCYF103Z50
	C201,C202	ELECTR. CAPACITOR	CEEA2R2M50
	C203,C204	CERAMIC CAPACITOR	CCCSL101K500
	C205,C206	CERAMIC CAPACITOR	CCCSL101J50
	C207,C208	CERAMIC CAPACITOR	CCCSL470J50
	C209,C210	CERAMIC CAPACITOR	CCCSL221J50
	C211,C212	ELECTR. CAPACITOR	CEEA221M16
	C213,C214	CERAMIC CAPACITOR	CCCSL080D500
	C217,C218	ELECTR. CAPACITOR	CEAS101M10
	C219-C222	ELECTR. CAPACITOR	CEAS3R3M100
	C225,C226	ELECTR. CAPACITOR	CEAS331M10
	C227-C230	CERAMIC CAPACITOR	CCCSL330K500
	C231,C232	CERAMIC CAPACITOR	CKCYB122K50
	C233-C236	ELECTR. CAPACITOR	CEAS100M50
	C237,C238	ELECTR. CAPACITOR	CEAS101M50
	C239-C242	POLYESTER CAPACITOR	CQMXA472J100
	C244	CERAMIC CAPACITOR	CKDYX104M25
	C245,C246	CERAMIC CAPACITOR	CKCYB331K50
	C247,C248	AUDIO FILM CAPACITOR	CFTXA103J50
	C251-C254	CERAMIC CAPACITOR	CCCSL680K500
	C255	CERAMIC CAPACITOR	CCCSL680J50
	C256	CERAMIC CAPACITOR	CCDSL470J50
	C301,C302	ELECTR. CAPACITOR	CEAS2R2M50
	C303	ELECTR. CAPACITOR	CEAS471M6
	C304	CERAMIC CAPACITOR	CKCYF103Z50
	C305	ELECTR. CAPACITOR	CEAS101M25
	C306-C308	ELECTR. CAPACITOR	CEASR47M50
	C401,C402	AUDIO FILM CAPACITOR	CFTXA473J50
	C501,C502	ELECTR. CAPACITOR	CEAS100M50
	C503,C504	ELECTR. CAPACITOR	CEAS470M25
	C505,C506	ELECTR. CAPACITOR (16000/5V)	ACH1078
	C508	ELECTR. CAPACITOR	CEAS470M50
	C509	ELECTR. CAPACITOR	CEAS010M50
	C703-C708	CERAMIC CAPACITOR	CCCSL271J50
	C711,C712	CERAMIC CAPACITOR	CCCSL271J50
	C715,C716	CERAMIC CAPACITOR	CCCSL271J50
	C725	CERAMIC CAPACITOR	CCDSL221J50
	C726	CERAMIC CAPACITOR	CKCYF103Z50
	C727,C728	CERAMIC CAPACITOR	CCCSL221J50
	C731	CERAMIC CAPACITOR	CKCYF103Z50
	C733,C734	CERAMIC CAPACITOR	CKDYF102Z50

RESISTORS

Mark	No.	Description	Parts No.
	VR201,VR202	VR(47K)	ACP1045
	VR701	VARIABLE(100K-20AX2)	ACT1062
	R101,R102	CARBON FILM RESISTOR	RDR1/6PU101J
	R107,R108	CARBON FILM RESISTOR	RDR1/6PU563J
	R119-R121	CARBON FILM RESISTOR	RDR1/4PM□□□J
	R133,R134	CARBON FILM RESISTOR	RDR1/6PU391J
	R143,R144	CARBON FILM RESISTOR	RD1/4PM560J
	R201-R204	CARBON FILM RESISTOR	RDR1/4PM□□□J
	R219-R234	CARBON FILM RESISTOR	RD1/4PM□□□J
	R237,R238	CARBON FILM RESISTOR	RDR1/4PM224J
⚠	R239-R242	FUSIBLE RESISTOR	RFA1/4PS101J
⚠	R243,R244	CARBON FILM RESISTOR	RD1/4PMF561J
⚠	R245-R248	FUSIBLE RESISTOR	RFA1/4PS101J
	R249-R252	CARBON FILM RESISTOR	RD1/4PM□□□J
	R255,R256	CARBON FILM RESISTOR	RD1/4PM561J
⚠	R257-R260	FUSIBLE RESISTOR	RFA1/4PS101J
⚠	R261-R268	FUSIBLE RESISTOR	RFA1/4PS470J
⚠	R269,R270	RESISTOR (0.33, 5W)	ACN1063
	R275-R278	CARBON FILM RESISTOR	RD1/4PM□□□J
⚠	R281-R284	FUSIBLE RESISTOR	RFA1/4PS331J
⚠	R285,R286	FUSIBLE RESISTOR	RFA1/4PS101J
⚠	R287,R288	CARBON FILM RESISTOR	RD1/4PMF4R7J
⚠	R289,R290	FUSIBLE RESISTOR	RFA1/4PS101J
	R299	CARBON FILM RESISTOR	RD1/4PM100J
⚠	R301,R302	CARBON FILM RESISTOR	RD1/4PMF222J
⚠	R308	CARBON FILM RESISTOR	RD1/4PMF101J
	R311-R315	CARBON FILM RESISTOR	RD1/4PM□□□J
	R317-R327	CARBON FILM RESISTOR	RD1/4PM□□□J
⚠	R330	CARBON FILM RESISTOR	RD1/4PMF010J
⚠	R401,R402	CARBON FILM RESISTOR	RD1/4PMFL101J
⚠	R403,R404	METAL OXIDE RESISTOR	RS1LMF331J
⚠	R407,R408	CARBON FILM RESISTOR	RD1/4PMFL100J
⚠	R501-R507	METAL OXIDE RESISTOR	RS1PMF121J
⚠	R507,R508	CARBON FILM RESISTOR	RD1/4PMF010J
⚠	R509,R510	METAL OXIDE RESISTOR	RS1LMF272J
	R513-R516	CARBON FILM RESISTOR	RD1/4PM272J
⚠	R517-R520	METAL OXIDE RESISTOR	RS1PMF101J
	R731,R732	CARBON FILM RESISTOR	RD1/4PM103J
		OTHER RESISTORS	RD1/8PM□□□J

SWITCHES

Mark	No.	Description	Parts No.
	S101	PUSH SWITCH	ASG1012
	S701	SWITCH	ASU1016
	S702	SWITCH	ASU1002
	S703	PUSH SWITCH	SULL6S

OTHERS

Mark	No.	Description	Parts No.
	CN4	JUMPER CONNECTOR	KPE15
	CN9	JUMPER CONNECTOR	KPC8
	RY301,RY302	RELAY	ASR-112
	RY303	RELAY	ASR-111
		PHONO JACK 6-P	AKB1007
		PHONO JACK 6-P	AKB1008
		PHONO JACK 6-P	AKB1024
		SPEAKER TERMINAL 8-P	AKE1011

6. FOR A-337/HEWZ AND A-337-S/HEWZ TYPES

NOTES:
- *Parts without part number cannot be supplied.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

6.1 Contrast of Miscellaneous Parts

The A-337/HEWZ and A-337-S/HEWZ types are the same as the A-337/HE type with the exception of the following sections.

Mark	Symbol & Description	Parts No.			Remarks
		A-337/HE type	A-337/HEWZ type	A-337-S/HEWZ type	
	AF COMPLEX ASS'Y	AWZ2867	AWZ2865	AWZ2865	
	HEADPHONE ASS'Y	Non supply	Non supply	Non supply	
	POWER SW ASS'Y	Non supply	Non supply	Non supply	
	ROTARY KNOB S (PLS)	AAB1155	AAB1155	AAB1156	
	ROTARY KNOB L (PLS)	AAB1160	AAB1160	AAB1161	
	ROTARY KNOB R (PLS)	AAB1162	AAB1162	AAB1163	
	ROTARY KNOB M (PLS)	AAB1166	AAB1164	AAB1167	
	PUSH KNOB C	AAD1366	AAD1366	AAD1367	
	KNOB (POWER)	AAD1535	AAD1535	AAD1537	
	PUSH KNOB	AAD1536	AAD1536	AAD1538	
	PUSH KNOB C	AAD1803	AAD1803	AAD1804	
	SCREW	BBT30P060FZK	BBT30P060FZK	ABA-274	
	PACKING CASE	AHD1863	AHD1863	AHD1864	
	PANEL BASE (PLS)	AMB1651	AMB1651	AMB1652	
	FRONT PANEL	AMB1397	AMB1397	AMB1398	
	BONNET CASE	AZN1799	AZN1799	AZN1800	
	OPERATING INSTRUCTIONS	ARE1162	------------	------------	
	OPERATING INSTRUCTIONS	------------	ARC1213	ARC1213	
	R1, R2	------------	RD1/4PM100J	RD1/4PM100J	

6.2 P.C.B's PARTS LIST

NOTES:

- *Parts without part number cannot be supplied.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω 56 × 10^1 561..........................RD1/4PS 5 6 1 J
47kΩ 47 × 10^3 473..........................RD1/4PS 4 7 3 J
0.5Ω 0R5..RN2H 0 R 5 K
1Ω 010...RS1P 0 1 0 K

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).
5.62kΩ 562 × 10^1 5621........................RN1/4SR 5 6 2 1 F

POWER SW ASS'Y

Mark	No.	Description	Parts No.
		CAPACITORS	
⚠	C510,C511	CKA (0.01/AC400V)	ACG1002
		SWITCH	
⚠	S501	PUSH SWITCH	ASG1035

HEADPHONE ASS'Y

Mark	No.	Description	Parts No.
		CAPACITORS	
	C801,C802	CERAMIC CAPACITOR	CKCYB392K50
		RESISTORS	
⚠	R801,R802	METAL OXIDE RESISTOR	RS1PMF331J
⚠	R803	METAL OXIDE RESISTOR	RS1LMF561J
		SWITCH	
	S801	PUSH SWITCH	SUL5L2B2S
		OTHERS	
	CN6	JUMPER CONNECTOR 3-P	KPC3
		JACK	AKN1002

AF COMPLEX ASS'Y (AWZ2865)

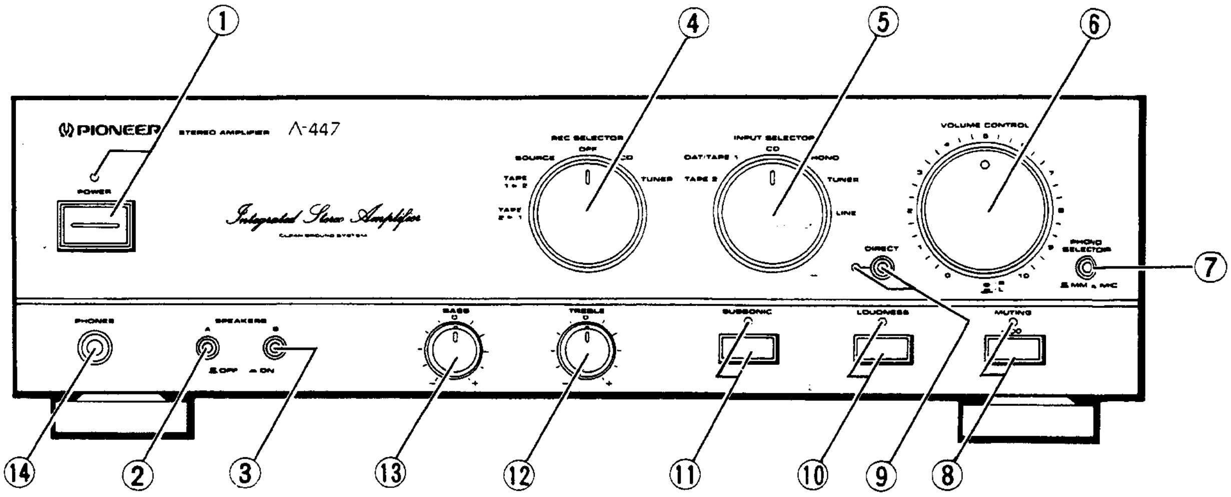
Mark	No.	Description	Parts No.
		SEMICONDUCTORS	
	IC101	OP-AMP IC	M5220P
	Q201,Q202	TRANSISTOR	2SA979
	Q203,Q204	TRANSISTOR	2SC2458
	Q205,Q206	TRANSISTOR	2SA1048
	Q219,Q220	TRANSISTOR	2SC2705
	Q221,Q222	TRANSISTOR	2SC3298
	Q223,Q224	TRANSISTOR	2SA1306
	Q231,Q232	TRANSISTOR	2SA1145
	Q301,Q302	TRANSISTOR	2SC1845
	Q303,Q304	TRANSISTOR	2SC2458
	Q305	TRANSISTOR	2SA1048
	Q306	TRANSISTOR	2SC1815
	Q307	TRANSISTOR	2SC2458
	D201,D202	DIODE	1SS252
	D207,D708	DIODE	1SS252
	D213-D216	DIODE	1SS252
	D217-D220	ZENER DIODE	RD8.2ESB1
	D221,D222	DIODE	1SS252
	D301-D306	DIODE	1SS252
	D307	ZENER DIODE,	RD15ESB
	D503,D504	ZENER DIODE	RD16ESB3
	D507	DIODE	D5SB20F
		COILS & FILTERS	
	L103-L106	AXIAL INDUCTOR	LAU221K
	L401,L402	COIL	ATH1009
		CAPACITORS	
	C103,C104	CERAMIC CAPACITOR	CCCSL330J50
	C107,C108	ELECTR. CAPACITOR	CEAS101M10
	C109,C110	AUDIO FILM CAPACITOR	CFTXA683J50
	C111,C112	AUDIO FILM CAPACITOR	CFTXA183J50
	C113,C114	ELECTR. CAPACITOR	CEAS4R7M50
	C115,C116	MYLOR FILM CAPACITOR	CQMA392K50
	C117,C118	ELECTR. CAPACITOR	CEAS221M25
	C119,C120	CERAMIC CAPACITOR	CKCYF103Z50
	C121,C122	MYLOR FILM CAPACITOR	CQMA122J50
	C123,C124	ELECTR. CAPACITOR	CEAS100M50
	C125,C126	CERAMIC CAPACITOR	CCCSL101J50
	C127,C128	CERAMIC CAPACITOR	CCDSL221J50
	C129	CERAMIC CAPACITOR	CKPYX103N25
	C139,C140	CERAMIC CAPACITOR	CCDSL330J50
	C141	CERAMIC CAPACITOR	CKCYF103Z50
	C201,C202	ELECTR. CAPACITOR	CEEA2R2M50
	C203,C206	CERAMIC CAPACITOR	CCCSL101J50
	C207,C208	CERAMIC CAPACITOR	CCCSL470J50
	C209,C210	CERAMIC CAPACITOR	CKCYB331K50
	C211,C212	ELECTR. CAPACITOR	CEEA221M16
	C213,C214	CERAMIC CAPACITOR	CCCSL080D500
	C217,C218	ELECTR. CAPACITOR	CEAS471M6
	C231,C232	CERAMIC CAPACITOR	CKCYB122K50
	C233,C234	ELECTR. CAPACITOR	CEAS100M50
	C235,C236	ELECTR. CAPACITOR	CEAS0R1M50

Mark	No.	Description	Parts No.
	C239-C242	POLYESTER CAPACITOR	CQMXA472J100
	C245,C246	CERAMIC CAPACITOR	CKCYB331K50
	C249,C250	CERAMIC CAPACITOR	CCCSL050C500
	C251-C254	CERAMIC CAPACITOR	CCCSL101K500
	C255	CERAMIC CAPACITOR	CCCSL680J50
	C256	CERAMIC CAPACITOR	CCDSL470J50
	C257	CERAMIC CAPACITOR	CKCYF103Z50
	C301,C302	ELECTR. CAPACITOR	CEAS2R2M50
	C303	ELECTR. CAPACITOR	CEAS471M6
	C304	CERAMIC CAPACITOR	CKCYF103Z50
	C305	ELECTR. CAPACITOR	CEAS101M25
	C306-C308	ELECTR. CAPACITOR	CEASR47M50
	C401,C402	AUDIO FILM CAPACITOR	CFTXA473J50
	C501,C502	ELECTR. CAPACITOR	CEAS470M25
	C505,C506	ELECTR. CAPACITOR (6800/42V)	ACH1077
	C508	ELECTR. CAPACITOR	CEAS470M50
	C509	ELECTR. CAPACITOR	CEAS220M50
	C703-C720	CERAMIC CAPACITOR	CCCSL271J50
	C725-C728	CERAMIC CAPACITOR	CCDSL221J50
	C731	CERAMIC CAPACITOR	CKCYF103Z50
		RESISTORS	
	VR701	VARIABLE(100K-20AX2)	ACT1062
	R121,R122	CARBON FILM RESISTOR	RDR1/4PM820J
	R133,R134	CARBON FILM RESISTOR	RDR1/6PU471J
	R141,R142	CARBON FILM RESISTOR	RDR1/6PU563J
	R143,R144	CARBON FILM RESISTOR	RD1/4PM560J
	R201-R204	CARBON FILM RESISTOR	RDR1/4PM□□□J
⚠	R205,R206	CARBON FILM RESISTOR	RD1/4PMF331J
	R207-R214	CARBON FILM RESISTOR	RD1/4PM□□□J
	R215-R218	CARBON FILM RESISTOR	RDR1/4PM□□□J
⚠	R239-R246	FUSLIBLE RESISTOR	RFA1/4PS101J
⚠	R247,R248	CARBON FILM RESISTOR	RD1/4PMF680J
	R251,R252	METALFILM RESISTER	RN1/4PQ1501F
⚠	R261-R264	CARBON FILM RESISTOR	RD1/4PMF101J
⚠	R265-R268	FUSLIBLE RESISTOR	RFA1/4PS4R7J
⚠	R269,R270	RESISTOR (0.33, 5W)	ACN1063
	R273,R274	CARBON FILM RESISTOR	RD1/4PM271J
	R277-R280	CARBON FILM RESISTOR	RD1/4PM□□□J
⚠	R287,R288	CARBON FILM RESISTOR	RD1/4PMF010J
	R299	CARBON FILM RESISTOR	RD1/4PM100J
⚠	R301,R302	CARBON FILM RESISTOR	RD1/4PMF222J
⚠	R308	CARBON FILM RESISTOR	RD1/4PMF101J
	R311-R315	CARBON FILM RESISTOR	RD1/4PM□□□J
	R317-R327	CARBON FILM RESISTOR	RD1/4PM□□□J
⚠	R330	CARBON FILM RESISTOR	RD1/4PMF010J
⚠	R401,R402	CARBON FILM RESISTOR	RD1/4PMFL101J
⚠	R403,R404	METAL OXIDE RESISTOR	RS1LMF331J
⚠	R407,R408	CARBON FILM RESISTOR	RD1/4PMFL100J
	R501-R506	CARBON FILM RESISTOR	RD1/2PM181J
⚠	R508	CARBON FILM RESISTOR	RD1/4PMF010J
⚠	R509,R510	METAL OXIDE RESISTOR	RS1LMF222J
	R517-R520	CARBON FILM RESISTOR	RD1/2PM181J
	R731,R732	CARBON FILM RESISTOR	RD1/4PM103J
		OTHER RESISTORS	RD1/8PM□□□J
		SWITCHES	
	S701	SWITCH	ASU1016
	S702	SWITCH	ASU1002
	S703	PUSH SWITCH	SULL6S
		OTHERS	
	CN4	JUNPER CONNECTOR	KPE15
	CN9	JUMPER CONNECTOR	KPC8
	RY301-RY303	RELAY	ASR-111
		PHONO JACK 4-P	AKB1007
		PHONO JACK 6-P	AKB1008
		PHONO JACK 6-P	AKB1024
		SPEAKER TERMINAL 8-P	AKE1011

7. PANEL FACILITIES

[FRONT PANEL]

The illustration shows model A-447.
Model A-337 is not equipped ⑦, ⑧ and ⑪.


①
④
⑤
⑥
PIONEER
STEREO AMPLIFIER
A-447
POWER
Integrated Stereo Amplifier
CLEAN GROUND SYSTEM
REC SELECTOR
SOURCE
OFF
CD
TAPE 1 ▶ 2
TAPE 2 ▶ 1
TUNER
INPUT SELECTOR
DAT/TAPE 1
CD
PHONO
TAPE 2
TUNER
LINE
VOLUME CONTROL
DIRECT
PHONO SELECTOR
MM MC
⑦
PHONES
SPEAKERS
A
B
OFF
ON
BASS
TREBLE
SUBSONIC
LOUDNESS
MUTING
⑭
②
③
⑬
⑫
⑪
⑩
⑨
⑧

① POWER switch/indicator

Press to turn power to the unit ON and OFF.
When the power is on, the indicator lights.

② SPEAKERS A selector switch

Use this switch to listen to the speaker systems connected to SPEAKERS A terminals.

ON (▬):
Depressed position: Sound is heard from the speaker systems.
OFF (▮):
Released position: No sound is heard from the speaker systems. Set to this position when listening with headphones.

③ SPEAKERS B selector switch

Use this switch to listen to the speaker systems connected to SPEAKERS B terminals.
ON (▬):
Depressed position: Sound is heard from the speaker systems.
OFF (▮):
Released position: No sound is heard from the speaker systems. Set to this position when listening with headphones.

④ REC SELECTOR switch

When this switch is set to a position other than SOURCE or OFF, the equipment selected by REC SELECTOR switch can be recorded from, irrespective of the settings of INPUT SELECTOR and DIRECT switches.
TUNER:
To record from the equipment connected to TUNER terminals.
CD:
To record from the equipment connected to CD terminals.
OFF:
In this position, nothing from REC terminals of DAT/TAPE 1 and TAPE 2 is output. Set to this position when not recording; the cassette deck will be disconnected, improving sound quality.
SOURCE:
To record from the equipment selected by INPUT SELECTOR switch.
TAPE:
1 ▶ 2:
To record (copy) from the cassette deck of DAT/TAPE 1 terminals, to the cassette deck of TAPE 2 terminals.
2 ▶ 1:
To record (copy) from the cassette deck of TAPE 2 terminals, to the cassette deck of DAT/TAPE 1 terminals.

⑤ INPUT SELECTOR switch

Use to select the playback source.

LINE:
For playback with a component connected to LINE terminal.

TUNER:
For AM or FM broadcast reception with a tuner.

PHONO:
For record playback with a turntable.

NOTE:

- *With the A-337, you can use an MM cartridge or a high-output MC cartridge (over 1 mV).*
- *According to the type of cartridge used with the A-447, you can select MM or MC with the PHONO SELECTOR switch.*

CD:
For compact disc playback with a CD player.

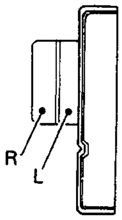
DAT/TAPE 1:
For playback with a cassette deck or digital audio tape deck connected to DAT/TAPE 1 terminals.

TAPE 2:
For playback with a cassette deck connected to TAPE 2 terminals.

⑥ VOLUME CONTROL

Use to adjust the volume level.
This volume knob consists of two volume controls. Because you can adjust L (left) and R (right) channel volume levels independently, it also functions as a balance control.

[Example]
To raise R (right) channel volume level, prevent the L knob from turning with one hand, and turn the R knob with the other hand.



NOTE:
This unit is equipped with a circuit that attenuates LOUDNESS and TONE effect as volume is turned up.

⑦ PHONO SELECTOR switch (A-447 only)

Set in accordance with the type of cartridge used with your turntable.

MM (■):
Set to this position when using a moving magnet cartridge, or a moving coil cartridge with a high output of 1 mV or more.

MC (▬):
Set to this position when using a moving coil cartridge.

⑧ MUTING switch (A-447 only)

Use to temporality cut sound volume.

on: The indicator lights.
The sound is cut off.

off: The indicator goes off.
The sound will return to its previous volume.

⑨ DIRECT switch/indicator

Use this switch/indicator when you do not wish to pass the output from input terminal equipment through the various frequency adjusting circuits (BASS, TREBLE, SUBSONIC, LOUDNESS) and adaptor terminals (ADAPTOR).

on:
The indicator lights: The signals input through the input terminals are reproduced without passing through the various frequency adjusting circuits. This results in flat, pure sound which is a more faithful reproduction of the input source.

off:
The indicator goes out: The signal passes through the various frequency adjusting circuits.

⑩ LOUDNESS switch/indicator

Use when listening at low volume levels.

on:
The indicator lights: Boosts low and high frequencies to give added punch to playback even at low volume levels.

off:
The indicator goes off: Should normally be left in this position.

NOTE:
This switch does not operate when DIRECT switch is in the on position.

⑪ SUBSONIC filter switch/indicator (A-447 only)

Use this switch when playing records with coarse grooves.

on:
The indicator lights: In this position, frequencies of 17 Hz and below are cut, eliminating super-low-frequency noise caused by coarse record grooves, and thus helping prevent sound distortion.

off:
The indicator goes off: Leave in this position for normal playback.

NOTE:
This switch does not operate when DIRECT switch is in the on position.

⑫ TREBLE tone control

Use to adjust the high-frequency tone. The center position is the flat (normal) position. When turned to the right, high-frequency tones are emphasized; when turned to the left, high-frequency tones are de-emphasized.

NOTE:

- *This control does not operate when DIRECT switch is in the on position.*
- *At volume levels lower than "4", the set tone control effect is obtained.*
  At volume levels higher than "4", the effect becomes increasingly weaker.

⑬ BASS tone control

Use to adjust the low-frequency tone. The center position is the flat (normal) position. When turned to the right, low-frequency tones are emphasized; when turned to the left, low-frequency tones are de-emphasized.

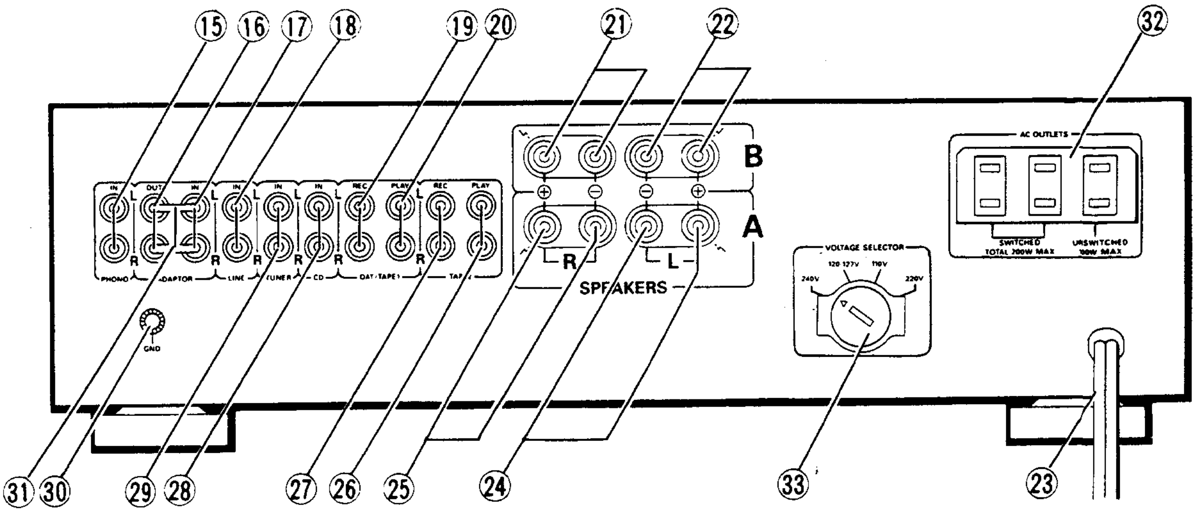
NOTE:

- *This control does not operate when DIRECT switch is in the on position.*
- *At volume levels lower than "4", the set tone control effect is obtained.*
  At volume levels higher than "4", the effect becomes increasingly weaker.

⑭ PHONES jack

When using headphones, insert the plug into this jack.

[REAR PANEL]


⑮
⑯
⑰
⑱
⑲
⑳
㉑
㉒
㉜
B
A
SPEAKERS
R
L
GND
PHONO
ADAPTOR
LINE
TUNER
CD
DAT·TAPE 1
TAPE 2
IN
OUT
REC
PLAY
AC OUTLETS
SWITCHED TOTAL 200W MAX
UNSWITCHED 100W MAX
VOLTAGE SELECTOR
120 127V 110V
240V 220V
㉛
㉚
㉙
㉘
㉗
㉖
㉕
㉔
㉝
㉓

⑮ **PHONO terminals**

⑯ **ADAPTOR OUT terminals**

⑰ **ADAPTOR IN terminals**

⑱ **LINE terminals**

⑲ **DAT/TAPE 1 REC terminals**

⑳ **DAT/TAPE 1 PLAY terminals**

㉑ **SPEAKERS B terminals (right channel)**

㉒ **SPEAKERS B terminals (left channel)**

㉓ **Power cord**
Connect this cord to an AC wall socket, or the AC outlet of an audio timer.

㉔ **SPEAKERS A terminals (left channel)**

㉕ **SPEAKERS A terminals (right channel)**

㉖ **TAPE 2 PLAY terminals**

㉗ **TAPE 2 REC terminals**

㉘ **CD terminals**

㉙ **TUNER terminals**

㉚ **Turntable ground terminal (GND)**

㉛ **Shorting bars**

㉜ **AC OUTLETS**

㉝ **VOLTAGE SELECTOR**
(multi-voltage models)

8. SPECIFICATIONS

[A-447]

Amplifier Section

Continuously Average Power Output is 60 Watts per channel, min., at 8 ohms from 20 Hertz to 20,000 Hertz, with no more than 0.009%total harmonic distortion.**

Continuous power output (both channels driven at 20 Hz to 20 kHz)**	
T.H.D. 0.009 %, 8 Ω	60 W + 60 W*
T.H.D. 0.02 %, 4 Ω	80 W + 80 W*
Dynamic power output (on EIA dynamic test signal)	
8 Ω/4 Ω/2 Ω	75 W/110 W/150 W
Total harmonic distortion **	
20 Hz to 20 kHz, 60 W, 8 Ω	0.009 %*
20 Hz to 20 kHz, 80 W, 4 Ω	0.02 %*
Input sensitivity/impedance	
PHONO (MM)	2.5 mV/50 kΩ
PHONO (MC)	0.2 mV/100 Ω
CD, TUNER, LINE, TAPE	150 mV/40 kΩ
PHONO overload level	
1 kHz, T.H.D. 0.008 % (MM/MC)	150 mV/12 mV
Output level/impedance	
TAPE REC, ADAPTOR OUTPUT	150 mV/2.2 kΩ
Frequency response	
PHONO (MM)	20 Hz to 20 kHz ± 0.3 dB
PHONO (MC)	20 Hz to 20 kHz ± 0.5 dB
CD, TUNER, LINE, TAPE	5 Hz to 100 kHz $^{+0}_{-3}$ dB*
Tone control (volume control set at – 30 dB position)	
BASS	± 8 dB (100 Hz)
TREBLE	± 8 dB (10 kHz)
Loudness contour (volume control set at – 30 dB position)	
	+5 dB (100 Hz)/+3 dB (10 kHz)
Filter (SUBSONIC)	17 Hz (12 dB/oct.)
Signal-to-Noise ratio (IHF short circuit, A network)	
PHONO (MM, 5 mV input/MC, 0.5 mV input)	93 dB/74 dB*
CD, TUNER, LINE, TAPE	108 dB*
Muting	– ∞

Power Supply/Miscellaneous

Power requirements	
Canadian model	AC 120 V, 60 Hz
Other destination models	AC 110 V/120–127 V/220 V, 240 V (Switchable), 50/60 Hz
Power Construction	
Canadian model	430 VA (CSA)
Other destination models	550 W
AC outlets	
switched (x 2)	200 W
unswitched (x 1)	100 W
Dimensions	420 (W) x 352 (D) x 126 (H) mm 16-9/16 (W) x 13-7/8 (D) x 5 (H) in
Weight (without package)	8.1 kg (17 lb 14 oz)

Accessories

Operating instructions	1

NOTE:

Specificatios and design subject to possible modification without notice, due to improvements.

* Measured with DIRECT switch set to on.

** Measured by Audio Spectrum Analyzer.

[A-337]

Amplifier Section

Continuous Average Power Output is 40 watts* per channel, min., at 8 ohms from 20 Hertz to 20,000 Hertz, with no more than 0.02 %** total harmonic distortion.**

Continuous power output (both channels driven at 20 Hz to 20 kHz)**	
T.H.D. 0.02 %, 8 Ω	40 W + 40 W*
T.H.D. 0.03 %, 4 Ω	50 W + 50 W*
Dynamic power output (on EIA dynamic test signal)	
8 Ω/4 Ω/2 Ω	55 W/90 W/100 W
Total harmonic distortion **	
20 Hz to 20 kHz, 40 W, 8 Ω	0.02 %*
20 Hz to 20 kHz, 50 W, 8 Ω	0.03 %*
Input sensitivity/impedance	
PHONO (MM)	2.5 mV/50 kΩ
CD, TUNER, LINE, TAPE	150 mV/40 kΩ
PHONO overload level	
1 kHz, T.H.D. 0.02 % (MM)	150 mV
Output level/impedance	
TAPE REC, ADAPTOR OUTPUT	150 mV/2.2 kΩ
Frequency response	
PHONO (MM)	20 Hz to 20 kHz ± 0.3 dB
CD, TUNER, LINE, TAPE	5 Hz to 100 kHz $^{+0}_{-3}$ dB*
Tone control (volume control set at – 30 dB position)	
BASS	± 8 dB (100 Hz)
TREBLE	± 8 dB (10 kHz)
Loudness contour (volume control set at – 30 dB position)	
	+5 dB (100 Hz)/+3 dB (10 kHz)
Signal-to-Noise ratio (IHF short circuit, A network)	
PHONO (MM, 5 mV input)	89 dB*
CD, TUNER, LINE, TAPE	108 dB*

Power Supply/Miscellaneous

Power requirements	
U.S., Canadian models	AC 120 V, 60 Hz
Other destination models	AC 110 V/120–127 V/220 V, 240 V (Switchable), 50/60 Hz
Power Construction	
U.S., Canadian model	260 W (UL), 330 VA (CSA)
Other destination models	410 W
AC outlets	
switched (x 2)	200 W
unswitched (x 1)	100 W
Dimensions	420 (W) x 352 (D) x 126 (H) mm 16-9/16 (W) x 13-7/8 (D) x 5 (H) in
Weight (without package)	6.9 kg (15 lb 3 oz)

Accessories

Operating instructions	1

NOTE:

Specificatios and design subject to possible modification without notice, due to improvements.

* Measured with DIRECT switch set to on.

** Measured by Audio Spectrum Analyzer.

*** Measured pursuant to the Federal Trade Commission's Trade Regulation rules on Power Output Claims for Amplifiers.